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Winter Number 148 June - August 2009

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Earth Garden

SUSTAINABLE LIVING WITH COUNTRY OR CITY ALTERNATIVES

Back Yard Farmer Volume Four: Urban Gardeners Like Amadis, or Tim Darby: See pages 26 & 63

Kitchen Sinks with Jill Redwood

Fowl Times With Alanna

Food Gardening In The Desert

Peter Pedals' Electric Bikes

Liz Ingham, Weekend Hippy Extraordinaire

Marcus Ward: Build Your Own Underground Bushfire Shelter

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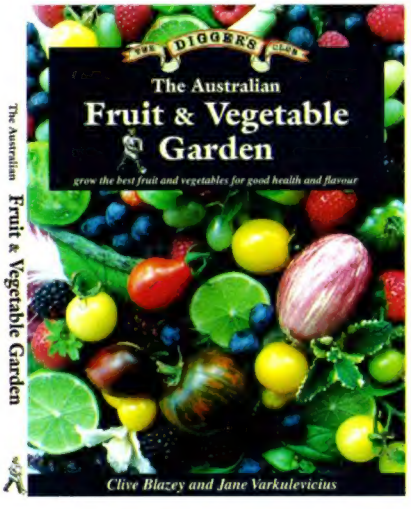

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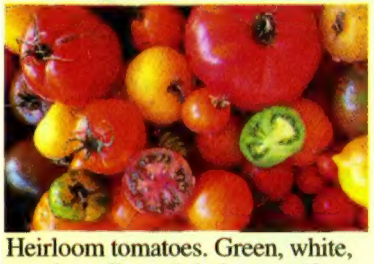

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FRONT COVER: Back Yard Farmer, Amadis Lacheta, in her delightful Melbourne food garden. On page 63, Amadis writes about the flourishing network of local food gardeners in her neighbourhood in an extract from the latest issue of *Back Yard Farmer Volume Four.* Tim Darby's entertaining extract is on page 26. The book will be available from newsagents, bookshops or The Good Life Book Club from early July.

INSET: Architect, Marcus Ward has specialised in sustainable home design for owner builders for many years. He writes compellingly about his experiences on Black Saturday and the benefits of his underground fire shelter. See page 11.

ECOTAX: This issue's EcoTax will go to the WA group Save The Kimberley to help fund their national campaign to stop a giant gas plant being built on the fragile Kimberley coastline just north of Broome. Visit the STK website at: www.savethekimberley.com.

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Founded by Keith & Irene Smith, 1972

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www.earthgarden.com.au The Earth Garden Path is our fab reader's portal for sharing news, stories, photos, recipes, jokes, and information about sustainable living, now with over 1900 members. Visit **www.earthgarden.com.au/portal/news.php** to see what it's all about. If you like it, you can join free.

Earth Garden is Australia's original journal of sustainable living and alternatives. It is a forum of practical ideas, shared knowledge, sources and a guide to alternatives to high-consumption lifestyles. It's about putting a roof over your head, growing your own food organically, aiming for appropriate, renewable home energy systems and surviving — and thriving — in the city or the bush, with the inner changes which follow when you're in harmony with Nature.

EcoTax: each issue we donate a portion of the cover price to a community group involved in conservation or social justice projects to help balance the use of the paper used for printing *Earth Garden*. We would like to see all publishers pay an EcoTax.

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Visit our Web page at: www.earthgarden.com.au.

Contributions to *Earth Garden* are welcome: sharing information and experiences with other readers strengthens the network of Earth Gardeners. Photos and sketches are important. Please send us good-quality digital photos with your written contribution, either on a disk/CD, or by email to: editorial@earthgarden.com.au. Please write first with your story idea. Subscribers are sustainers: for subscription details see page 80.

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(We don't have the resources to staff telephone enquiries: please write or fax.)

Beyond The Bitumen

Dear readers,

Welcome to the winter issue of *Earth Garden*. You can tell by the articles in this issue that we've been quite preoccupied with the after effects of the Victorian bushfires. I believe that Marcus Ward's article on designing and building your own bushfire shelter may prove to be one of the most important articles we ever publish. And comments by Bruce Hedge, Liz Ingham and Jackie French I find equally fascinating. We hope this information will be useful and will help you reflect on how to approach future bushfire seasons on your own properties.

Our little town of Trentham was – thankfully – spared from any nasty bushfires. But of course, like all people we were shocked, saddened and felt some of the grief and loss of those more directly in the line of fire. Many of us also felt a strange sense of guilt that we had got off so lightly while others lost homes, possessions, animals and loved ones.

We were all very jittery in the days and weeks after Black Saturday, and the direct effects in our office were obvious. One day Karen and Shelley had to drop everything and race home to their Daylesford properties to secure them as a large bushfire began in their very own little hamlet. This fire quickly grew and spread and started spitting embers for up to 30 kilometres across the Wombat forest – heading for our little forested town of Trentham. At one stage there were 22 spot fires listed on the CFA website in and around the Wombat Forest and the Daylesford/Trentham area. The *Earth Garden* office ended up closing on three separate days during this horror month. But we were all so very lucky compared to thousands of others.

And then, strangely and ironically, the rain came just as the giant Sound Relief concerts were staged in Melbourne and Sydney. More than 80,000 people packed out the MCG to see bands that put in much time and huge efforts to re-form, practise and play. Split Enz, Midnight Oil and Hunters & Collectors all reformed especially for the day. Earth Garden's very own, much-loved Advertising Manager and webguru, Doug Falconer, is the drummer in Hunters & Collectors. All Doug's work mates and friends through the Earth Garden Path — our online web-community which he maintains with admirable skill — were delighted to see Doug getting back on stage for such a worthy cause. We know how much time and effort this involved and Doug: we salute you and thank you for your great effort to help bushfire victims.

A few days before the big concert a grainy black and white photo of young Hunters & Collectors appeared on the EG Path announcing Doug's involvement in Sound Relief. This prompted some very happy memories of Hunters songs and gigs from EG Path members. My favourite memory stood out, and had Judith and I rolling around laughing with tears in our eyes. It came from regular EG Path contributor, 'Ulfgarius' of North Queensland, who said: "'You don't make me feel like I'm a woman any more' sung by a whole building site of blokes takes the cake for me. Ah memories . . . "

While many readers are having a breather in their food gardens at the moment, or studying catalogues with an eye to spring plantings, seeds and fruit tree purchases, I'm actually in the grip of planting and germinating fever right now.

That's because our family has moved to Broome for a year or two while our children finish some vital bits of schooling. Harry is finishing Year 12 at Broome High School this year, so we've been living here in the Kimberley for a while and getting used to growing fruits and vegies in the arid tropic climate of Broome, where the annual rainfall is about the same as Melbourne, but it all falls from January to March.

At the moment I'm germinating tomato seeds, bok choy, parsley, basil, coriander, mizuna and much more, and loving it. The gardening challenges are very different – for instance no snails, but ants eating all my direct-sown vegie seed! But the rewards are surprising. The red pindan soil of Broome is great to work with — especially with bins full of camel poo mixed through. So when you see those gorgeous tourism industry images of camels wandering along Cable Beach at sunset, just picture your conscientious *Earth Garden* editor racing along 'behind' to collect the offerings.

I'll let you know how this year's food garden progresses.

Happy winter reading,

Congratulations To Our Magazine's Co-Founder, Dr Keith Smith PhD, From All Your Dear Friends At Earth Garden

After 15 years of study, *Earth Garden* co-founder Keith Smith has finally graduated from Macquarie University, Sydney, with the degree of Doctor of Philosophy (PhD). His thesis, titled Mari Nawi ('Big Canoes'): Aboriginal Australians in Australia's maritime history, 1788-1855, will form the basis of an exhibition at the Mitchell Library, Sydney, in August 2010.

"Getting a floppy hat is very satisfying for an old bloke who left school at 15 to become a copy boy on the *Sydney Sun*," says Keith, who will turn seventy later this year.

Keith shared his joy with Irene, daughter Melissa Gunnsmith and her husband Jason, who took the photos (attached) of Keith with Melissa and granddaughter Poppy, who turned 14 months on the day. *Earth Garden* staff, and all the magazine readers who loved all 52 issues published by Keith and Irene from 1972 to 1987 are delighted. Keith: we're proud of you!

***Earth Garden* co-founder, Dr Keith Smith PhD with his daughter Melissa and granddaughter Poppy.**

Earth People Write is an open forum. The views expressed in letters from readers do not necessarily reflect the opinions of *Earth Garden*. Letters are always welcome, but please keep them concise. Our favourite letter writer in this issue will receive a copy of *Green Power Today Volume Two*.

Tree farm pruning methods

Dear Alan,

Your Beyond the Bitumen piece in EG144 (Winter 2008) resonated with my arboreal efforts in the south-west of WA. I have been planting various timber trees since about 1999, hoping to produce fine timber, firewood and fence posts one day. I have a question regarding your method of pruning: "removing all branches over thumb-thickness ..." On my trees, the branches attain that size so quickly that the trees would look rather anorexic, and would probably grow very slowly if that method were used. I have been following a practice I read somewhere of removing all branches where the trunk diameter exceeds 10 cm. This is meant to produce logs clear of knots except for the 10-cm-wide core. What do you think of the relative merits of these pruning systems? Do they depend on the growth habits of the species being grown?

By the way, your pole saw enabling pruning to six metres sounds very impressive! I've used more Tarzan-like antics until the recent acquisition of an extension ladder. Email: harpermered@iinet.net.au

David Meredith via Email.

Hi David,

I hope I didn't sound too knowledgeable in that editorial! I'm strictly the labourer on our tree farm; Judith is the one who has done two tree farming courses at Creswick Landcare Centre, and I simply follow her instructions. I must admit that by using this poodle-prune method, and aiming for 'clearwood', many of our trees look very short of leafy matter afterwards! It's a rather alarming look but somehow they just keep stacking on the girth. I am sure you are right — it all depends on species, soil type and rainfall. I think I'll write a little update on our tree farm in a forthcoming issue. Good luck with your tree farming — I'll bet you're as addicted to it as we are. A greenie forester friend, Steve Matthews, was recently amazed to find how light our Barnel pole saw is. We bought it from www.forestrytools.com.au.

—Alan.

Chook caravan

A big hello to all,

I have just recently started to read your magazine and think that it is wonderful; I can't get enough. Great work, your team is fantastic. There is so much to read and I enjoy every page!

I am after some help or ideas. I have recently come across a friend throwing away an old caravan — too dangerous to have it on the road. I thought that it would make a great chook house. Instead of reinventing the wheel I thought maybe one of the readers may have already done something similar. I would really appreciate any tips, photos or suggestions. I can't wait to get the project started: should make for an interesting chook house I thought. Thank you: christopherjayne@bigpond.com

Cheers, Jayne Farrell via Email.

Dear Jayne,

What a great idea! I'm sure there will be a reader to help you. We'd love to read a description and see some photos of your finished chook caravan.

—Fiona.

Paradise in a plain brown wrapper

Hi all,

Receiving my *Earth Garden* magazine in the post in my children's early years has been like a little piece of paradise in a brown envelope!

Deb via Email.

Sustainable living on a low income

Dear *Earth Garden*,

Long time reader, first time writer. It was in '95 at the age of 24 that I realised my connection with the earth. Renting and working in the northern suburbs of Adelaide as a youth worker, concerned and confused about the direction of humanity, I found sanity in my garden. I planted the fastest-growing tallest plant I knew, bamboo or one of its many cousins, started a vegie garden, and bought a dozen ex-battery hens.

Now, 14 years later, with my partner of 17 years and our eight-year-old daughter, we own approximately 13 acres, two hours from Adelaide. We bought this property four years ago very cheaply as it was run down, had a lot of actual garbage everywhere and not much vegetation. But it did have a working windmill that pumps stock-quality bore water, a structurally sound old stone cottage and mains power connected. At the time I was a stay home dad and my partner had full time employment as an animal technician. We were still striving for sustainable living with a mortgage in outer suburbia, growing fruit and veg, keeping chooks, meat rabbits, composting, and for the last couple of years we smuggled in a milking goat or two.

We had been looking for properties for about two or three years so when this one came up, with a little basic refinancing we bought it and only slightly increased the mortgage on our suburban home. My partner stayed at work while I commuted as often as possible, cleaning,

fixing and building our soon-to-be home. I went to auctions buying building materials, fencing and anything I could afford and could fit in or on my van. For one year I ferried to my property what to most people looked like a neatly stacked pile of hard rubbish. That pile of rubbish is all but gone and in its place are sheds, chook runs, goat stalls / milking shed, numerous fences and gates, pergolas, verandahs and an almost-restored stone room with cellar. All this on an average annual income of $25,000 over the past ten years.

What I think I want from this letter is some comfort and communication with others who have done or want to do similar to us. How to deal with moving to a community that is largely made up of broadacre stock and grain farmers, where conversation about the price of grain, wool, lambs, cattle, farm machinery, fertilisers, herbicides and football dominate the range of topics. There's always the weather to talk about; just don't mention climate change as I did: that's just something those greenie hippies made up. Apparently I'm a greenie hippie. C/O Sandalwood P.O. South Australia 5309.
Simon Metcalf.

Making a meal of garden pests

Dear *Earth Garden* People,

I recently re-read issue 144 (Winter 2008) of this wonderfully inspirational and informative magazine. Jackie French (productive writer that she is) had a very provoking idea in her regular 'Season By Season' segment about food choices. She advocated being a 'moral omnivore'. What a good idea.

I bought a small farm — five acres — near Armidale, NSW, about five years ago, and am happy to report I am progressing in my efforts to be more organic. As the property contained only a house and shed, and was part of a larger property subdivision, there was a lot of secondary growth gum and wattle, lots of tussocky grass and weeds. There was one dam (which continually seeps water, so doesn't get very deep) and the soil was not very productive. We have planted lots since our arrival.

In the past few years I have been collecting cow and horse manure from neighbours (ok, I don't know if they have been fed organic feed or not but they seem healthy and content grazing in the paddocks) in an effort to improve my soil. I have sat in my vegie patch and pounded cow pats on a concrete block with a rubber mallet and built up the growing medium. It has paid dividends. Apart from having to pull weeds every so often, my six above-ground gardens are bursting with tall, healthy vegetables of all kinds, and the great thing is that I know there have been no poisonous sprays. I also use garden teas as fertilisers.

However, with this abundance of luscious green came the snails and slugs by the hundreds. Now here is my solution. We eat them. My husband and I have travelled in Europe extensively and our favourite places were in the French and Greek countryside. We met a man in a café who had a large slimy bag next to him on the ground. We questioned him and discovered he had been snail hunting in a local vineyard after a rain shower. He took us along and later to his home where he transferred the snails to a wood and wire cage. He fed them on old cabbage and lettuce leaves plus he threw in handfuls of parsley and thyme (for flavouring, he said). Three weeks later we returned to the little village to participate in a great feast of Escargot Catalan, which consisted of a huge bowl of snails (still in the shell) cooked with tomato, corn nibblets, onion, garlic and red wine, accompanied by fresh bread sticks and drunk with more red wine. Delicious.

The snails were the 'Petit Gris' (translation 'Little Greys') variety and are very common in our gardens here. The DPI actually have a couple of booklets for sale on home snail production.

As I am looking for alternate kinds of protein to include in our diet I decided to have my revenge, and have been farming my own snails. We more or less follow the same procedure of feeding the caged snails on only human-style vegetable bits and pieces. I leave them for a further week (making a total of four weeks in all in the cage) on nothing at all but a saucer of water. This makes them purge and then they go into hibernation. They need thorough washing (six rinses in very salty water) to make them 'bavre' or expel slime. The seventh rinse is in cold fresh water. They are then tossed into rapidly boiling water for just three minutes, taken out and allowed to cool. They can be frozen in the shell, or picked out with a toothpick and frozen in tubs.

I have cooked a similar Catalan style recipe and also a Greek dish called Salangaria Stifado — lots of onions and herbs, and slow-cooked in the oven. I have also done them in French-restaurant style with a sweetish garlic herb butter, curry powder and served with toast. So far my favourite is to chop up the cooked morsels, mix with rice, tomato, onions and herbs and stuff into half a large zucchini (of which there always seem to be a surplus in our garden).

Like Jackie French said, eat the feral animals. Happy hunting!
Pauline Hams via Email.

Australorps in Dubbo; DIY tomato paste

Hi all,

I have been buying your magazine for about ten years now and I'm in love with it. Even the ads are interesting. In the last eight years we have moved five times and I have had various degrees of success with the gardening bit. This place is nice and big and even had a chook yard already for us, but no chook shed. We have a temporary arrangement at the moment that started out as a basic corrugated iron roof with three sides, only about waist high. Then I read somewhere about building with strawbales, so now it is surrounded by bales of straw with some stacked on top and plastic draped over the roof. Even in 40-degree heat it wasn't too bad for them. I intend to replace the old straw with fresh and use the old in the garden. I have two girls: one Australorp, Piggy, and one Langshan, Squarky. Piggy goes broody with monotonous regularity, which has made her easy to handle. She has taught the kitten not to chase them by chasing him; she'll even chase the dogs if they come too close at the wrong time. In the heat I have let them out all the time and they hang around the back of the house. I was putting the sprinkler on in the afternoons and the dogs would go under and over it and the girls would stand just close enough to get a little moisture over themselves. My question: I want to get some fertile Australorp eggs or day-old chicks that I could put under her next time she goes broody. Is there anyone near Dubbo who breeds them and could spare me about ten eggs or six chicks? Email: deborah107@hotmail.com

Tomatoes: this makes a lovely concentrated paste or gloop. Roughly chop tomatoes, onions, capsicums, eggplants into big, shallow baking dish. Chuck in however many garlic cloves you fancy. Pour some nice red wine over it all, and put into a slow oven for several hours. Give it a stir around every now and then and when it all falls apart, turn it off. Allow to cool a little then either blend or bash up with your vertical basher-upper and freeze. Use this instead of tinned tomatoes and paste, in spaghetti bol, or lasagne. Mmm mmm. Hope you are all surviving the fires and floods.
Deborah, Narromine, NSW, from the EG Path.

Wanted: 12V propane generator

Dear Earth People Write,

Does anybody know of (or perhaps plan to make) a 12V only propane generator set that is a ready made complete unit (please no conversion kits or plans). That is, a motor that runs on a BBQ gas bottle (9 kg no doubt) that turns a high amp (20–40) 12V generator (no 240V). This generator would be connected to a 12V battery bank for recharging. An automatic switch off/disconnect when the batteries are full would be a nice touch, as well as electric start for the propane motor. A built-in regulator and display panel indicating charge status would be great too, as I have a bush cabin that runs on 12V solar only. But I am always worried that I will run out of battery power and I need a top up power source and I don't like to and won't use liquid fuels nor LPG or natural gas. I run my esky-style fridge and cooker and hot water (shower) all on propane and it all works perfectly well.

Propane gas is not perfect but it is a fairly safe, versatile and spill-free form of energy, which will lend itself well to generating electricity. I know there are some propane gensets out there but they are 240V with maybe a 12V component attached and the efficiency is doubtful. If I were to put a 240V high amp 12V charger onto one of these gensets, apart from the extra cost, I'm sure the efficiency would diminish and it all starts to get untidy and clumsy.

So 12V dedicated/electric start/propane powered/battery charging genset is just what I need to get me through those cloudy winter days when my solar panels are bound to let me down.

George Mason, PO Box 283, Rose Bay, NSW 2029.

Electric motoring Q & A

Dear Readers,

I have a question or two with regards to hybrid motoring or fully electric: although there is no apparent emission with electric motoring and hydrogen, still the question remains — where is the electricity coming from needed to feed those two ways of green motoring? We are still talking many kilowatts per day here and in my humble opinion (I am just an electrical mechanic) one would need a hell of a lot of (very expensive still) solar panels to cover for that. If we don't use solar- or wind-powered resources (the latter has some horizon polluting issues), we may as well continue to drive our dirty old cars.

Then the second point arises: although the lithium ion battery is a great invention with regards to less weight and high power output, still, the question remains, what do we do with them when they have served their time? How are they being disposed of?

Please do not get me wrong, I am very concerned about my children's and unborn grandchildren's planet and would like to carry my own weight in a global solution to this too-long neglected problem. Email: sisron@aapt.net.au

Ronald Brouwer via Email.

Dear Ronald,

I am delighted to tell you that you need not worry so much: I have some very good news for you. If you subscribe to GreenPower™ (visit www.greenpower.org.au) by paying a little extra on your electricity bill (about 5.5 cents per kWh), your retailer is government-audited to ensure that all your electricity comes from new, renewable sources, such as wind farms or solar parks. This means any electric car effectively becomes a solar- or wind-powered car, as ours is when recharged at the EG office. Secondly, I researched what happens to lithium ion batteries at the end of their life before we bought our electric car (from www.bev.com.au) and discovered that something like 99.5 per cent of all the components are recycled, at factories in Switzerland and France. Lead acid batteries, however, present very real environmental problems and this was a decisive factor when we chose the more expensive, lithium ion batteries.

—Alan

Natural remedies for animals

Hi Guys,

Long time reader of EG — I am just in love with your mag, what more can I say? There was a good letter by Rachael Hutchings about safe flea control for pets in the Autumn issue. I just want to add two more authors of natural remedies for animals: Juliette de Baracli Levy, whose *The Complete Herbal Handbook for the Dog and Cat* is published by Faber and Faber. This is now out of print but can be tracked down on the internet. This is the mother of natural animal care and she's amazing and practical; her books cover domestic animals, farm animals and humans.

The second author is home grown and in print: Pat Coleby. Her *Natural Pet Care* is published by Scribe — bookshops will be able to order it in for you if they don't have a copy on their shelves.

I practise natural care on my cats, dogs and with self confidence. Cheerio.

Valli Poole via Email.

More on ethical omnivorism please

To *Earth Garden*,

I have been reading your magazine with some interest, as we are setting ourselves up to live a self-sufficient lifestyle (as no doubt nearly every other reader!) in southern Tasmania with a minimum of impact on the environment.

We have 45 acres with six acres of forest. We're nearly fully off the grid with our house that we've been retrofitting for the past year. On our land we do not spray or use any chemicals. We have a few cows, including my special Jersey called Emma. She has been providing us and her calf with the most beautiful milk I've ever tasted, which I've been converting into butter, cheese and yoghurt. We have taken part in a wildlife saving program and have fenced off our forest so that it can regenerate naturally and provide a haven for wildlife. In other words, we are trying to do our best!

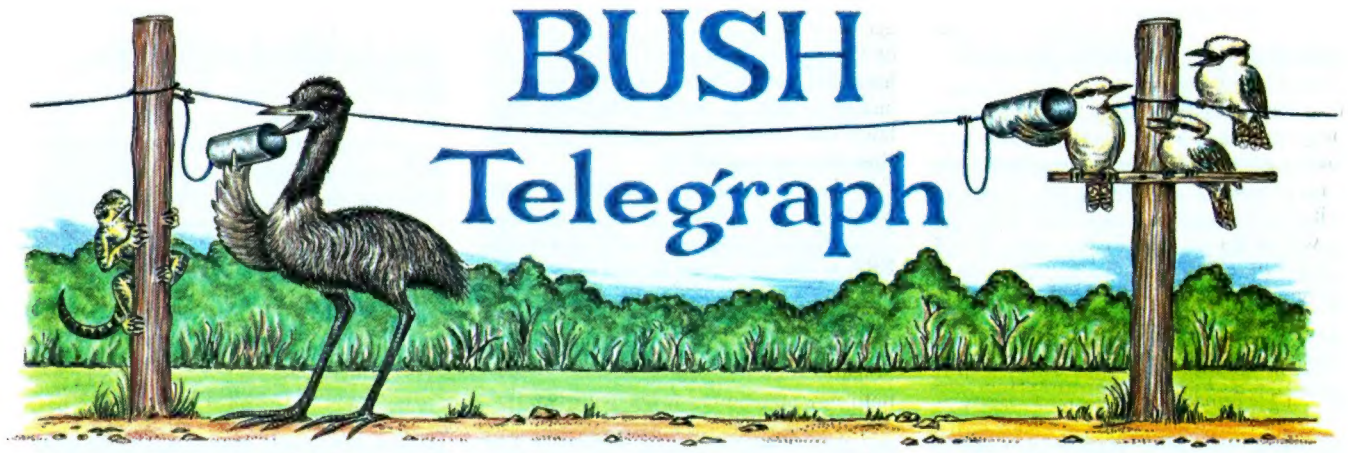
I enjoy reading your articles and am picking up lots of handy tips, but would like to see a little more balance in some areas. In every edition I've read so far there are articles about vegetarianism and veganism saving the planet, blaming the humble bovine for climate change. Surely every sensible human being will realise that it is not really the cow that has caused climate change — I can think of a two-legged animal that is a thousand times more destructive! So, can you offset this one-sided view with some other views as well, or is this outside the scope of your readership?

For example, as an omnivore, humans had best eat a mixture of vegetables and animal products. How about an article about ethical animal husbandry and ethical butchering? I think that it's not so much the meat eating that is a problem, but the production line approach we have so rudely taken with other living beings, or the chemicals that we fill them with that is a problem.

Surely there are some interesting ethical developments out there that can be promoted through your magazine, be it animal care, animal butchering, or how to be able to eat an animal from nose to tail without waste or how to recycle the inedible bits back into the earth? Email: asynick@gmail.com

Anna Synick via Email.

Earth People Write **continues on page 66**



Any news items which may interest Earth Gardeners may be submitted to *Bush Telegraph*. Please send notice of meetings, festivals and gatherings well in advance of the events.

Felled Old-Growth Tree 500 Years Old

A Victorian environment group has radiocarbon-tested a felled old-growth eucalypt and the result suggests the giant gum was at least 500 years old. The battle to save the old-growth forests of Brown Mountain in Victoria's far east has been waged by environmentalists since 1989. When another coupe was cut down early this year, logging opponents decided to send a sample of a felled tree to the University of Waikato in New Zealand for radiocarbon dating tests. Jill Redwood is the coordinator of the lobby group, Environment East Gippsland.

"Considering that ancient trees like these have been chainsawed down every day across south-east Australia, no-one has ever been able to give a definitive age on the trees," she said. "We just thought it would be really interesting to try and get an absolute age for these trees." The test results said there was an 84 per cent chance the tree was between 500 and 600 years old. Botanist Steve Mueck has worked for the Victorian Department of Natural Resources and Environment and is now a consultant in the private sector. He says radiocarbon dating of eucalypts is unusual and the result in this case is significant.

"Current forest managements practices are looking at harvesting on rotation times in the vicinity of 80 to 120 years with the perception that that's a particularly long period of time," he said. "Now it is, I suppose, in the context of a human lifetime, but it is a very, very short period of time in comparison to the age in which many of the components that live in these forests can in fact get to in a natural system."

Ms Redwood says her group is hoping the radiocarbon test result may help their campaign to save some of the remaining giant trees. "We're finding trees of 13 and 14 metres around and it is hard to believe that they exist," she said. "They have got the bulk of a blue whale. They are just the land giants of the planet. If this was a human artefact, it would be an incredibly precious antique, but because it is a tree they just think it can be cut down and sold off for a song and most of it goes to woodchips.

"We are hoping like hell that they are going to start realising that they can't replace these trees in the cycle of a logging cut. At the moment they are saying they are protecting a certain per cent so that is okay and they can log the rest." Victorian Environment Minister Gavin Jennings was unavailable to speak to AM. —*ABC*

$8 Cardboard Solar Cooker Wins Climate Prize

An $8 cardboard box that uses solar power to cook food and sterilise water could help save the lives of 3 billion of the world's poor. The Kyoto Box, named after the United Nations' Kyoto Protocol that seeks to cut emissions of greenhouse gases, has won the Climate Change Challenge's $100,000 prize for ideas to fight global warming.

"We're saving lives and saving trees," said the Kyoto Box's developer Jon Boehmer, a Norwegian based in Kenya. Mr Boehmer will carry out trials in ten countries, including South Africa, India and Indonesia. The other four finalists were a garlic-based feed additive to cut methane emissions from livestock, an indoor cooling system using hollow tiles, a cover for truck wheels to reduce fuel use and a "giant industrial microwave" for creating charcoal. —*Reuters*

Researcher Questions Fire Strategy

A leading bushfire researcher has questioned calls for more frequent controlled burn-offs, saying they may make our forests more prone to large blazes. The Director of the Centre for Environmental Management at the University of Ballarat, Professor Peter Gell, says frequent burning of Victoria's forests may have resulted in bushfires becoming more frequent and more intense. Professor Gell has uncovered evidence that the incidence of fires increased dramatically with the arrival of Europeans after the 1830s. Contrary to conventional beliefs, he says, the first squatters burnt the land far more regularly than Aborigines ever did.

"This may have created a situation where the frequent burning of forests early on changed the plants on the forest floor to create fire-provoking vegetation rather than reducing it." Professor Peter Gell is convener of a national network of scientists examining the affects of humans on Australia's ecosystems. He also heads an international network of researchers on the effects of people on the world's lakes.

"At Ballarat, we are looking at fire history and we believe the incidence of fires markedly increased after Europeans arrived. The first squatters burnt more regularly than the indigenous people and might actually have increased the interac-

tion between fire and vegetation rather than reduced it."

Victoria's early settlers turned most of the original forests into woodland and most of the woodland into grassland, Professor Gell says. So although the total "fuel load" has decreased, conditions for bushfires within the remaining forests are different now than they were 300 years ago. "If we are facing a new climate and increasingly extreme and catastrophic fire hazards, fuel reduction burning may be doing little to restrict the passage of fires," he says.

"It's also possible that fuel reduction burning will become so frequent or excessive that biodiversity is completely sacrificed because the shrub layer that is critical for most of our rare and endangered birds and animals will be destroyed." Professor Gell says that governments are investing enormous sums of money in trying to maintain biodiversity, soil stabilisation and water quality. But these are all negatively affected by regular burning. "If you burn every year or two, you could be throwing the baby out with the bathwater."

— The Age/Environment East Gippsland

Polluted Uranium Water Leaks Into Kakadu

The Ranger uranium mine inside the World Heritage-listed Kakadu National Park is leaking 100,000 litres of contaminated water into the ground beneath the park every day, a Government appointed scientist has revealed. Alan Hughes, the Commonwealth supervising scientist appointed to monitor the mine's environmental impact, confirmed at a Senate committee hearing that about 100 cubic metres a day — the equivalent of 100,000 litres or three petrol tankers — of contaminant were leaking from the mine's tailings dam into rock fissures beneath Kakadu.

There have been more than 150 leaks, spills and licence breaches at the Ranger uranium mine since it opened in 1981. The mine's owner, Energy Resources of Australia, has been repeatedly warned about its management of the mine, with a previous government-appointed scientist declaring in 2004 that ERA was "complacent" about protecting workers and people living near the mine. The mine was originally scheduled to cease mining last year but there are now plans to tunnel under flood plains from an open pit in a move that would extend mining to 2021. Tailings are piles of crushed radioactive rock left over after the mining process.

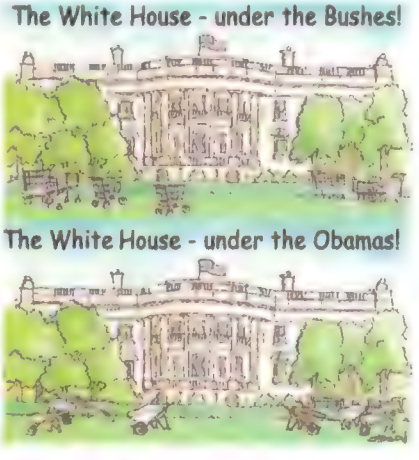
Environmentalists and the Greens say the company should be forced to halt plans to expand the mine until it explains how it intends to recover the water and meet its obligations to rehabilitate the world heritage-listed area, 250 kilometres south-east of Darwin. "The Ranger mine has a long history of cutting corners with worker and environmental safety standards and this latest leak means permanent pollution in Kakadu," said the Australian Conservation Foundation's nuclear campaigner, Dave Sweeney.

"Federal authorities should require ERA to end their expansion plans, phase out current mining, get serious about cleaning up the mountain of mess it has already caused and get out of Kakadu." Greens Senator Scott Ludlam said Mr Hughes' until now unreported revelation about the extent of the leak during a hearing of the Senate Standing Committee on Environment was "astonishing".

Michelle Obama Plants Organic Vegie Garden At White House

In March Michelle Obama began digging up a patch of White House lawn to plant a vegetable garden, the first since Eleanor Roosevelt's Victory Garden in World War II. Produce from the organic garden will be used for the first family's meals and formal dinners, but Ms Obama says the most important role of the 1,100 square foot plot will be the education of children about healthful, locally-grown fruits and vegetables: "My hope is that through children, they will begin to educate their families and that will, in turn, begin to educate our communities." The garden will feature 55 varieties of vegetables grown from organic seedlings in White House greenhouses, cultivated in raised-bed plots fertilised with White House compost, crab meal from the Chesapeake Bay, lime and green sand. A grassroots campaign for such a garden, sparked by Michael Pollan, gained steam after November's election.

—New York Times/OFA



The 'Al Gore Of Food Security' Says Go Organic

He looks more like a genial uncle than a harbinger of doom, but the UK Soil Association's Patrick Holden visited Australia recently to deliver a sobering message. Holden, the head of the Bristol-based charitable organisation that promotes organic farming, gave a series of public lectures in Sydney and met food industry figures at a private meal hosted by Kylie Kwong. Sometimes referred to as the Al Gore of food security, Holden warned that if the West doesn't focus on shoring up food security it could leave itself open to a food crisis.

"Think of the global credit crises," he says. "Well, in 10 to 15 years we could see something similar happen with food, a sort of global food crunch. This would have far worse consequences than this financial crisis. In just a few generations we have burned almost all our reserves of fossil fuel and pumped the gas into the atmosphere." Holden refers to the fact that almost all the food in the Western world is grown using oil. Tractors and harvesters run on diesel, chemical pesticides are made from oil; fertilisers are either made directly from oil or mined from rapidly diminishing mineral reserves. He also describes a global food production and distribution system that uses oil to transport food not only around the world but within national borders.

"We rely so much on oil for our food that if something were to disrupt that supply, such as a political incident like we saw recently when Russia cut off gas supplies to Europe this winter, terrorism or war, then our food stocks would run out. "We must also consider that we have reached peak oil production and it's just going to get more expensive from now on."

A report by the Soil Association refers to the 2000 fuel protest that brought London to within three days of running out of food. The first head of the Blair government Countryside Agency, Lord Cameron of Dillington, came back with a chilling report: "The nation is just nine meals from anarchy." Holden wants governments around the world to tackle what he calls an "emergency in the wings".

"I look around Sydney and it's obvious. The city has engulfed so much arable land, its farming land and now the food has to come from so much further away. It's the same for all Australian cities." He says governments should consider putting plans in place to achieve sustainable agriculture that doesn't rely on oil and chemical fertilisers, and to grow staples close to where people live. He points to organic farming not just as a way of farming sustainably, but also of sequestering carbon from the atmosphere. "Our practice of using nitrogen fertilisers is oxidising our soils," he says. "The nitrogen burns the carbon and this goes up into the atmosphere as CO_2."

When asked if his claims might just be

a way of scaring people onto the organic bandwagon, he says: "I am not apocalyptic. But yes, I want to see more people farming organically. What is at stake is our health and the future of the next generation." Holden sees a need for a bottom-up movement where people put pressure on governments to address food security.

—The Age

France Defies Its Heritage To Condemn Alcohol

To the anger of the wine industry and disbelief of lovers of a good drop worldwide, the French Government has told its people to stop drinking wine. The French Health Ministry has made alcohol one of the chief villains in a drive against cancer. "The consumption of alcohol, and especially wine, is discouraged," say guidelines drawn from the findings of the National Cancer Institute. A single glass of wine a day will raise the chance of contracting cancer by up to 168 per cent, claims the ministry's brochure. Forget those 1980s findings that antioxidants in wine were good for health, according to the French experts. "Small daily doses of alcohol are the most harmful," institute president Dominique Maraninchi said. "There is no amount, however small, which is good for you."

Authorities elsewhere have been telling people in recent years to go dry if they want to stay healthy. But the advice was especially sobering, coming from the Government of France, where wine is part of life and the national heritage. The pleasantly-illustrated ministry brochure makes grim reading. The institute collated hundreds of international studies and summarised the relation between types of cancer with food, drink and lifestyle. Apart from wine, the dangerous stuff includes red meat, charcuterie and salt.

A pave de rum-steak might not sound so mouth-watering after reading: "The risk of colon-rectal cancer rises by 29 per cent per 100g portion of red meat per day and 21 per cent per 50g portion of charcuterie." Alcohol facilitates cancers of the mouth, larynx, oesophagus, colon-rectum and breast, the guidelines say. Wine producers are crying foul, accusing the health lobby of trying to kill one of France's glories. They note the suspicious coincidence that France now has its first teetotal president. Nicolas Sarkozy sips mineral water and orange juice when all around him are knocking back the champagne and burgundy.

"This persecution of wine has to stop," said the General Association of Wine Producers. The growers say the scientific evidence is contradictory and they point to a World Health Organisation study that found moderate consumption helped to prevent cancer. Xavier de Volontat, president of the wine producers' association in the southwestern Languedoc region, said: "The extremists must not be allowed to take consumers hostage . . . wine consumption has dropped by 50 per cent over the last 20 years in France, but cancer has increased. You have to admit, that's a paradox. "We never said that alcohol is not dangerous for health. We are for responsible, reasonable and moderate consumption . . . it is not in our interest to see our consumers dying of cancer or in car accidents." *—The Times*

Roofs Boost Tank Lead Levels

Up to one fifth of rainwater tanks could have lead levels above drinking water guidelines, an Australian researcher has found. But he says unless you live in a town that has a lot of heavy industry, the main sources of this lead are likely to be your rooftop, rather than the atmosphere. Griffith University's Robert Huston carried out the PhD research as part of a project originally developed by the CRC for Water Quality and Treatment.

"I don't want people to be alarmed because most of the time the water quality is good," he said, reporting findings from the study in Water Research. "But I think it's something that people should be made aware of." Mr Huston says previous studies have shown that lead levels in city rainwater tanks across Australia can exceed drinking water guidelines, but this is the largest study of its kind to investigate the reason for this. He analysed 26 rainwater tanks across the city of Brisbane for chemical contaminants, with a focus on heavy metals including lead, cadmium, zinc, iron and copper. "About 10 to 20 per cent of tanks at any one time have lead above the Australian Drinking Water Guidelines," he said. He concluded that most of the lead was coming from rooftop sources such as lead flashing and leaded roofing nails. "Industry and cars are certainly a source but they're not the main source as far as lead goes in places like Brisbane," he said. He says rainwater in towns which have heavy lead pollution from industry would obviously have a higher level of lead coming from the atmosphere. The study also found levels of zinc exceeded drinking water guidelines.

Mr Huston says the quality of treated water is more reliable than tank rainwater, but says there are things homeowners can do to improve the quality of their tank water. Remove any lead on the roof or cover it with lead-free roofing paint; use a floating outlet from the tank that takes water from near the surface - this will protect from giardia cysts as well as from lead, both of which tend to fall to the bottom of the tank; use an ion exchange filter, but this must be changed regularly; use a concrete tank, which keeps the pH of the water alkaline and precipitates lead, which is a problem when water sits in plumbing with lead solder. Plastic tanks tend to raise the pH and make lead more soluble; flush pipes before drinking.

Mr Huston says apart from chemical contamination, the other concern about rainwater has been microbial contamination from animal faeces. But he says a large epidemiological study in South Australia found no evidence of increased gastroenteritis among rural children who rely on rainwater, as compared with urban children who drink treated water. *—ABC*

Health Risks Of Shipping Pollution 'Underestimated'

New Danish research shows that one giant container ship can emit almost the same amount of cancer and asthma-causing chemicals as 50 million cars. Confidential data from maritime industry insiders based on engine size and the quality of fuel typically used by ships and cars shows that just 15 of the world's biggest ships may now emit as much pollution as all the world's 760 million cars. Low-grade ship bunker fuel (or fuel oil) has up to 2,000 times the sulphur content of diesel fuel used in US and European cars.

US research shows that pollution from the world's 90,000 cargo ships leads to 60,000 deaths a year in the US alone and costs up to US$330bn per year in health costs from lung and heart diseases. The new Danish EPA study suggests that shipping emissions cost the Danish health service almost £5bn a year, mainly treating cancers and heart problems. A previous study estimated that 1,000 Danish people die prematurely each year because of shipping pollution. Cars driving 15,000 km a year emit approximately 101 grams of sulphur oxide gases (or SOx) in that time. The world's largest ships' diesel engines which typically operate for about 280 days a year generate roughly 5,200 tonnes of SOx.

—The Guardian/Tane Thomas

Marcus and joey at the entrance to his bunker.

Shelter From The (Fire) Storm

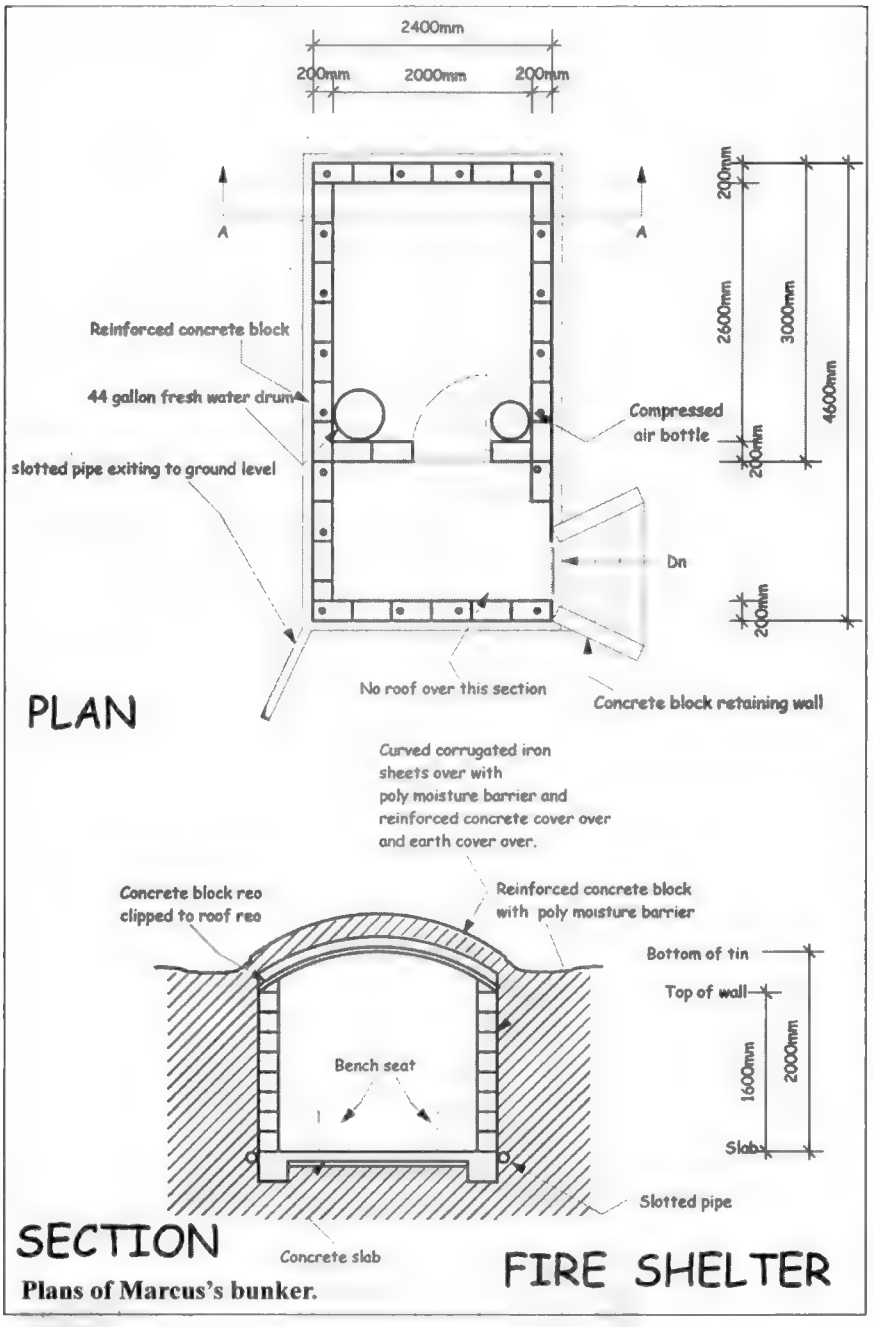
Marcus Ward is a highly respected architect and forest campaigner. He has created sustainable home designs for many years for people in rural — often bushfire-prone — regions, including Victoria's Macedon Ranges where he and his partner, Chris, live and run a wildlife shelter. In this concise, intensely practical, and very important article Marcus describes the how and why of building your own underground bushfire shelter. If Marcus's own fire bunker design inspires you to build your own, remember: every site is different and will have unique issues like drainage, clay expansion and the like — get your design approved by a structural engineer or local building surveyor or architect.

by Marcus Ward
Pastoria East, Victoria.

IN '83 we lived in a rented weatherboard cottage on the east side of Mt Macedon, Victoria. Totally unprepared, we luckily survived two fires that summer. The first burned to within a few kilometres of the house, and the second, two weeks later (Ash Wednesday) burned through the property, destroying a windbreak behind the house, but sparing everything else. At the time, we were building our mudbrick and stone house to the north of Mt Macedon. Thrice lucky, that property escaped unscathed, but like everyone else, the '83 fires caused us to re-consider the risks of living in a forested area.

After the fires I came across an article that talked about how successful underground fire shelters had been in the '39 fires. There was a story about the contrasting experience of two sawmills that were located on either side of a road. One had a dugout where all 30 workers had survived while on the other side of the road, with no dugout, all the mill workers had perished. The article stated that no one who had access to a fire shelter on Black Friday had perished.

It seemed like a great idea to us. We stopped building our house and spent the next week building an underground fire shelter. The design was simple. We dug a cut into a hill in front of our house with a bulldozer, poured a rough 2 m x 4 m slab, built walls with fieldstone and covered the top with rolled corrugated iron and 100 mm of concrete. We then pushed the dirt back around the shelter and over the top. We made the door from secondhand timber and lined the exterior with corrugated iron. Near the door we put a 20 mm thick x 100 mm high x 200 mm long piece of glass mortared into the stonework to give a bit of light, and im-



Plans of Marcus's bunker.

portantly, let us know when the worst of the fire had passed. All up we spent less than $300.

It amazed us that we seemed to be the only people we knew that built an underground bunker. Everyone we showed it to thought it was a bomb shelter. Bombs? In the Macedon Ranges? Many people seemed to think it was altogether a bad idea. Many people suggested we would suffocate. "Unlikely," I thought. An average person uses about 0.4 of a cubic metre of air an hour, that's about 40 person hours in our shelter. We'd only need less than three. Still, better safe than sorry: four years ago we put a bottle of compressed air in the bunker. People are still skeptical. It must be a fear of being underground.

The recommendations that followed the Ash Wednesday fires mentioned nothing about fire shelters. The fire shelter recommendations of the '39 Royal Commission would surely have saved lives in the '83 fires, but curiously to us, there was little discussion about this.

The main recommendation that came from the '83 fires was the message that it was better to be prepared and stay and defend your home. And that if you weren't prepared to stay and defend, to leave your home early.

Fleeing early is the best option for some. For others who may want to leave it's not always so... simple. For many people there's really only one option — to stay. For us evacuation is not possible. Still, all in all, the general community approach has been a successful one. I've certainly been a believer.

I've designed scores of houses in bushfire zones with a firm belief that if there's a safe refuge in the house the occupants, with a good overall fire plan, will be ok. Where the fire danger has been obviously extreme, particularly where the egress would be difficult, I've designed simple underground bunkers near, but separate to the house. For the price of what a year's fire insurance policy can cost, it seems a pretty good extra bit of insurance to dig yourself a bunker.

Councils, the Fire Brigade and other bureaucrats have always been dark on my fire bunkers. A few years ago I challenged a Country Fire Authority regional officer to explain why they seemed so dismissive. The response was clear: they just didn't think they were a good idea (people could suffocate, there's no standards developed, they may/not be safe and so on) and nor did they really want to discuss the pros and cons.

For us living in a forest at the end of a long, winding tree-lined dirt road, responsible for dozens of animals, our plan has always been to stay and defend. As a result we've built a sophisticated fire protection system with hundreds of metres of poly pipe buried 600 mm below ground, a petrol pump on the dam, a backup petrol pump on the drinking water tank, sprinklers on the roof, sprinklers on and in the barn and two back up pumps should the others fail. We've been threatened by fire half a dozen times since Ash Wednesday. I've always been confident that we would survive a bushfire.

On 7 February, 48°C, wind gusting to 100 kmh and a fire bearing down on us, 25 years of confidence disappeared. Sprinklers blazing away, we waited and tried to work out how

we could fit the three goats, which we'd planned to put in the house, down the shelter with the birds, kangaroos, wombat and the three of us. It seemed highly unlikely that our house would be a safe refuge in the face of what was coming.

The relief when the wind first dropped, and then picked up from the south, driving the fire away from us was surreal. Were we in danger? Are we now safe? Who's copping it now? It's an agonising relief.

Having the underground bunker has always been a great "back of the mind" comfort. On 7 February it became a life-line plan B when we realised we'd probably made a terrible error thinking we could safely stay and defend in such conditions.

In the discussions and articles that have followed the fires over the past few months, the issue of the pros and cons of fire bunkers has often come up. Again, there seems to be a resistance from the bureaucrats about the safety and wisdom of underground bunkers. Those with them swear by them. CFA and emergency service spokespeople are so far non-committal.

On reflection, I think perhaps the reluctance to endorse underground bunkers, a response that was so supported after the 1939 fires, is not supported now by the emergency services because there is a conflict with the main community message of "stay and defend, or leave early." I still think it's an appropriate message, but what the real message is, and has always been is "... and you'll probably be ok". Clearly, when you're planning for a bushfire emergency, there's no 100 per cent. But if the community were to lose confidence in the overall message the strategy falls to pieces. I'm guessing that's a big part of why bunkers have been discouraged — it sends the wrong, conflicting message. Why would you need an underground fire shelter when all you need to do and know is to "stay and defend, or leave early?" Underground bunkers represent a huge vote of no confidence. If you believe you're going to be safe, or you can always get out before the fire comes, why would you need to build a bunker? Community confidence in the fire plan has crashed since Black Saturday. People are now leaving their homes in droves on high fire-risk days. Schools are being closed. There are calls to remove roadside vegetation to improve safety for people fleeing fires as more people reconsider whether it's safer to stay or flee. About half a million people live in the rural fringes of Melbourne. Can all the schools close and all the residents head to Melbourne every total fire ban day? Maybe.

For whatever reason, emergency services planners over the past few decades have discouraged underground bunkers, but it's time to reconsider them as part of a legitimate response to bushfire threat. Nothing is 100 per cent, "stay and defend, or leave early" is still the main game, but having an underground bunker during a firestorm has got to be a safe bet.

'Planning' helped group survive bushfire

Denise Doerner visited the Victorian bushfire Royal Commission's 23 March community consultation meeting in Kinglake with a story that, so far, is unique among the many the inquiry has heard.

"I want to tell people that they can live safely in the Australian bush," Ms Doerner said.

"What I want to tell the Royal Commission is a success story."

Ms Doerner was one of about 150 people who came to that Kinglake meeting, the third of the Commission's community meetings at which it is canvassing the views of those affected by the Black Saturday fires.

Ms Doerner said her warning that the deadly blaze was on its way came from a neighbour who had seen it coming and telephoned a warning.

She said a "Fireguard Group" she and her neighbours had established after previous fires had saved her life and those of others who sheltered in the underground fire shelter on her grape-growing property.

"We had 10 people and six dogs in there and we all felt very safe," she said.

"Our fireguard group worked very well.

"The main thing it did was stop us from panicking — we knew what to do, where to go.

"That's why I say that you can live in this environment, you just have to understand it and prepare." — *AAP*

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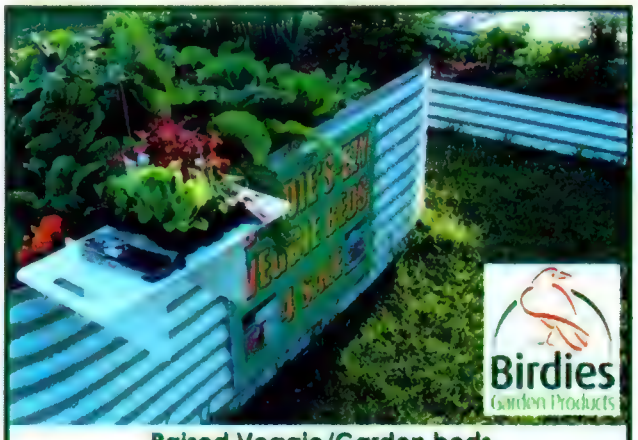

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WHAT'S YOUR PROBLEM?

Bob Rich answers questions about owner building

Email Bob at bobrich@bobswriting.com, or write to him at LPO Box 214, Healesville, Victoria, 3777, with a stamped return envelope. If you don't want your correspondence printed send $20 with the question. You might like to visit him at www.mudsmith.net/.

Keep embers out

The bushfire season is over ... for now. You can be sure it will be back, and climate change will ensure that what is now an unusually bad year will become more like the norm.

And the time to prepare for the next bushfire is NOW. Autumn, winter and spring are the seasons to improve your safety. Summer is too late.

Gary Hughes is a senior writer for *The Australian.* On the 9th of February, he had an incredible, wonderful report of his escape published. It deserves a Pulitzer Prize. But as I read his account, one thing stood out for me:

"They call it 'ember attack.' Those words don't do it justice. It is a fiery hailstorm from hell driving relentlessly at you. The wind and driving embers explore, like claws of a predator, every tiny gap in the house. Embers are blowing through the cracks around the closed doors and windows."

That's why his house was lost. That's why he and his family nearly died.

One of the most important things you can do to protect your house is:

ENSURE THERE ARE NO GAPS WHERE EMBERS CAN GET IN.

This is worth more than a sprinkler system, more than any other measure. And it's a lot cheaper.

Here are a few tricks for this:

Fire rated sarking

If you are building, ensure that you place a complete, gapless cover of fire-rated reflective foil laminate (the aluminium gift wrapping) over the roof battens, especially if you have a tile roof (which should be banned in fire-prone areas). With an existing house, it may be possible to insert it without having to remove all of the roof. It may be a lot of work but more than well worth it. Even if no fire comes your way, you'll save the cost in heating/cooling bills.

Similarly, any stud-framed house should have it in the wall cavity, and you should have a layer under any elevated floor.

When installing it, either during building or as a retrofit, ensure that you use fire-resistant tape to completely seal it.

Flywire prevents entry of embers through roof ventilation.

Metal mesh screens

When I built my house, I placed metal mesh flywire (not aluminium, because that can burn in extreme temperatures) closing places like air vents into the roof space.

One of my current projects is to make external screens for all my windows, using 'mouse wire.' This is a 6 mm weldmesh. It's ex-

Mouse mesh lets more light through windows than flywire.

Filling the gap between the roof sheeting and fascia with expanding foam.

pensive at $100 for 30 m (it may be possible to get it cheaper, but I support my local business). However, two rolls, and about $150 for timber, will do the whole house. When the screens are in place, you hardly notice them, unlike flywire, which darkens the interior of the house. It's also a lot more robust, and should offer protection from flying debris.

A metal mesh screen does more than act as an ember trap. It is also a radiant heat shield. I remember seeing a

demo of this in a high school Physics class. The teacher had a one-mm metal mesh globe on a handle. He played a Bunsen burner flame on it. The wire mesh actually glowed red, but there was no flame within the globe. After a short time, the flame continued as the blown gas emerged on the other side of the globe. But, magically, there was still no flame within.

So, the mesh over the windows will protect them from the heat. And if it's fitted properly, it'll stop burning stuff coming in through any gaps.

Fireproof expanding foam

Bostik and Hunters both market a filler that is ideal for places like the gaps between a corrugated roof and the fascia at the bottom or the ridge capping at the top. I should know, because I spent this morning using the stuff to seal the ridge of my house.

As the name suggests, the foam expands. Its final volume is three times what it is as you apply it. So, it's great for filling odd little gaps such as around fixed window frames. Once it's seasoned, the excess can be cut off and painted over.

Mind you, this job does need practice. The stuff STICKS. You definitely need gloves, and you'll throw them away after the job is done. Even so, right now I wish I'd worn an old long-sleeved shirt and I have hairy arms.

Skill is needed for two reasons.

First, there is a time delay when you push the button. And when you release pressure, the stuff keeps coming. So, there is the risk of a botched job with gaps where you thought you'd filled a hole, and at the same time there is likely to be wastage. You need to learn to get the timing right.

Second is the business of judging quantity to put into a space. Too much is a waste, and will bulge out, giving you extra work. Too little means you'll only need to go over it again.

In my job this morning, another difficulty was lack of head room. The can needs to be held upside down. If you don't, you expel propellant rather than foam, and this gets worse as the can empties. Toward the end, the only way I could do it was to squirt stuff, and use my gloved hand to put it where it'll do some good.

Despite these difficulties, I now have a roof space that should be safe from embers.

People claim that they have seen a house explode in a bushfire. They are wrong. What they see is one or more internal fires reaching flashpoint. Under the pressure of the terrible winds of a firestorm, glowing embers find their way in. They then sit there, either going out or igniting small fuel (dust, leaves that blew in during winter storms, paper and furnishings). These little fires spread until ... WHOOSH!

Properly landscaping the environment of the house, and protecting its exterior are important. But stopping burning rubbish from getting in is essential.

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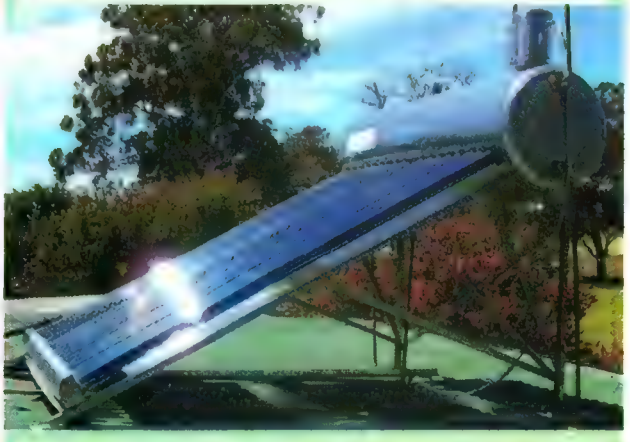


Run on Sun 150 litre complete system

Fireproof expanding foam fills the gap between window and wall frame.

Permaculture in Hindsight

Bruce takes time for some radical rethinking of his plans for fire protection in the aftermath of Black Saturday.

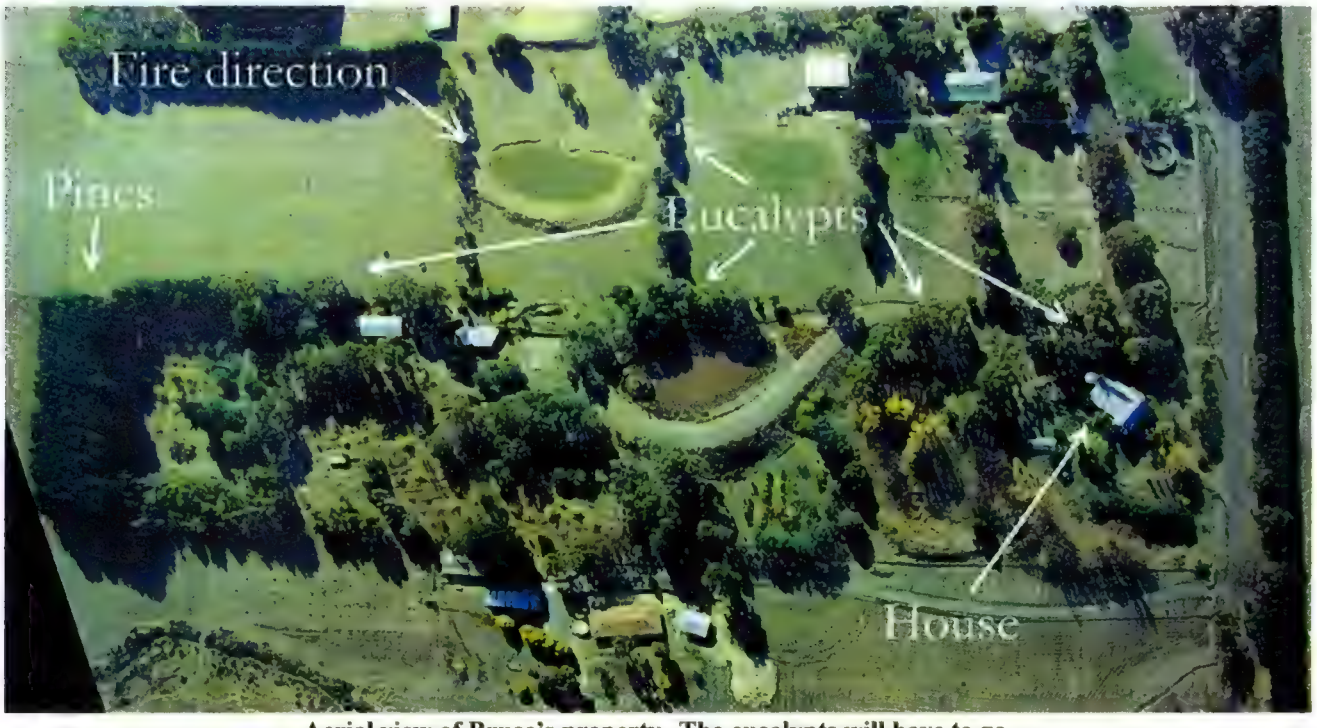
by Bruce Hedge
Newham, Victoria

TWENTY SEVEN degrees Celsius is a nice comfortable temperature. Thirty seven degrees is not nice and very uncomfortable. I had never in my life experienced forty seven degrees and a one hundred kmh wind until Black Saturday, 7 February 2009. I had reluctantly, (stupidly, in retrospect) left my two grown sons to mind the property while I photographed a wedding 80 km away.

To cut a very long story short, we were saved from the fire to our north by a wind change, but the day will go down infamously as the day of the worst natural disaster in Australia's history. It was the day we very soberly started to evaluate our utterly inadequate fire plan and the faulty permaculture design of our property with regard to fire prevention. Sure, we'd installed two roof sprinklers, powered by a petrol pump, attached to a 5000-gallon concrete tank full of water. Sure, we'd eliminated the flammable bark, twigs, and dry grass on the ground in north-west fire sector out to 40 metres. Sure we'd gathered the things-you'd-save-in-a-fire and put them in a car in an open area, on a concrete slab, which wouldn't burn. And sure, we had a fire fighting pump ready to have a red hot go at any advancing fire front. Yeah, right.

I now realise that we have to seriously confront the fire issue, and make some substantial changes in the area immediately around the house if we're to stand a chance of surviving the next fire when, not if, it comes. So, off to the literature I went.

I soon discovered a most generous, amazing offer from David Holmgren, co-originator of the permaculture concept, on his website www.holmgren.com.au where he has a FREE download of his remarkable book *The Flywire House–A Case Study In Design Against Bushfire* written after the catastrophic 1983 bushfires in Victoria. The book



Aerial view of Bruce's property. The eucalypts will have to go.

"... uses a property in the Dandenong Ranges, Victoria, as a case study, and provides a wealth of information about the principles and practice of fire-resistant design, construction and management in ways which are energy efficient, sustainable and productive — the essence of permaculture."

I was pleasantly surprised to read that our 125-year-old timber former school house was salvageable from a retrofitting point of view because it was painted white, and had no flammable bushes near it. With David's guidance, we could start to make the place far more resistant to fire, especially preventing ember infiltration, and at least have a chance of saving the house after the fire front went through.

Yes, after the fire goes through, because I learnt from David's book that most houses burn down after the main front has passed, with embers inside the house doing the most damage. This scenario might be completely different in catastrophic firestorms as on 7 February, but I suspect the Royal Commission may find that conditions that day were so off the top of the scale that nothing could have prevented the fire once it started.

This brings us to survival. We are fortunate here to be in a relatively open situation, with grazing properties to the north and west, but in our original permaculture design, we planted shelter belts of very flammable eucalypts which run straight towards the house and would be very difficult to extinguish if a spot fire started. We've put in place measures to reduce their presence (firewood for the next five years!) and replace them with irrigable deciduous food-producing fire-retardant plants. An espaliered apple line or two springs to mind! Easy to net against birds, and an excellent substitute for the eucalypts now the shelter further out has grown. Other trees like feijoas, and tagasaste for green manure will also be a part of this fire-resistant shield.

And that brings us to our next major project. For some time we had planned to build a cool store out of mudbricks between the stumps under the previously mentioned wooden house. This year, despite the drought, we had a good crop of apples and pears on the trees we'd netted, and a cool store seemed to be a good option to keep them fresh-

Forest to the north of Bruce's property.

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Karri Hedge surveying 30 different apples from the drought-affected 2009 crop.

ish for a few months longer than usual. We'd made 175 bricks of the 250 necessary, and were about to start on the construction under the house, when along came that awful day. We immediately changed our plans and instead will build a stand-alone mudbrick earth-roofed cool store 20 metres from the house, which will double as a fire bunker in the months before the apples need to be stored. We'll need another 300 bricks, but at our annual apple tasting party in March we had a bunch of very excited youngies and oldies get down and dirty making a substantial contribution to the total of bricks for the shelter.

Download David's very generous free offer from his website — it's only 19 pages and don't bother about the larger file — the 25 Mb one is very detailed and complete. Bill Mollison's *Permaculture, A Designer's Manual* is also an excellent resource, as is *Grow What Where*, originally published in 1980 by Nelson, but now published by Bloomings and possibly available at your library. This wonderful reference book contains a list of fire-retardant plants that can be cross-referenced for other qualities such as bird attractants, or frost resistance.

After last issue's story about it finally raining, it just stopped, and for the first time in 30 years of recording rain for the Meteorological Department I submitted a blank sheet for January. This was followed by 0.8 mm for February, and that's why the bush was so dry. My heart goes out to you readers in Queensland, who have had more than enough, but I am starting to seriously wonder if our dam will ever overflow again, as it did regularly for the first 15 years of existence. I'm off to do a rain dance ...

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SECOND PROJECT

EGFA's second project has been completed successfully in the village of Deusa in the Solukhumbu region of eastern Nepal during April 2009.

This second project cost $3600 - all paid by EGFA membership fees - and involved the installation of two solar lighting systems in the village health post by our Nepali project partner, the Himalayan Light Foundation. The HLF technician who installed the systems also held training sessions so the Deusa people can understand how to install future systems they may fund themselves. This single health post serves thousands of villagers from sourrounding areas who previously could not get medical assistance easily after dark. More photos and further details of the installation will be posted on the EGFA webpage (see address below).

Join EGFA today and be assured that every cent of your membership money will go to direct project support via groups like our first project partner, the Himalayan Light Foundation (www.hlf.org.np), to help provide solar lighting solutions to Himalayan communities.

NO ADMINISTRATION COSTS

Earth Garden magazine will continue to absorb all administration costs of the Foundation. So every dollar donated will go (initially) to getting solar power into remote Nepali health posts, schools, and other community centres via HLF programs.

EGFA now has more than 60 members, including a Victorian primary school that raised $600 towards the $3600 cost of our second project (see the letter in EPW of EG 147).

EGFA will now concentrate on raising funds for a third project. EGFA's project partners are implementing projects that reflect the long-standing sustainable living ideals of *Earth Garden*.

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PLEASE NOTE: Donations to Earth Garden Foundation Australia Ltd are not yet tax deductible. The Foundation is actively seeking registration as an overseas charity. This process is time-consuming, and will not be completed during the 08-09 financial year. This will in no way slow the Foundation's activities.

Living In Fowl Times

From Araucanas to Transylvanian Naked Necks, Alanna welcomes your queries about living with chooks. Write to *Earth Garden*, PO Box 2, Trentham, Vic, 3458 or email info@earthgarden.com.au.

by Alanna Moore
Castlemaine, Victoria

Hello Chookies,

Your chooks in winter may not be laying many eggs, but they still have jobs to do! They can scratch out spent vegetable beds, bring a splash of colour into a drab backyard and offer fun-filled antics to watch. And some people think that their greatest value is in providing manure, a high value fertiliser. But the stuff is so potent it's best added to other high carbon materials, such as straw, sawdust, dead grass or weeds and allowed to compost down until springtime, when it can be used to kick-start new plantings. There's nothing like a good home made compost! Especially compared to commercial products, such as those popular fowl manure pellets that conveniently rid the cage egg industry of their waste problem. You wouldn't want to be buying into that now, would you!

People used to pride themselves on their compost-making ability, and, in China, villages used to compete with one another for the best looking communal compost heap. These 'farmers of forty centuries', as the title of a great old book on the subject suggests, really knew about sustainability. Today's reliance on artificial fertilisers, such as ammonium nitrate, is like giving junk food to the soil and it has a high environmental cost too. The fact that you can also make a bomb out of that stuff says it all!

I'm so passionate about people using home-grown fertiliser that I wrote a little song about it and gave roving presentations as the 'P Fairy' at this year's Sustainable Living Fair in Melbourne. My song starts like this:

Being kind to my planet, I don't buy urea,
Or chook poo pellets from a chook torture chamber,
I don't flush my pee into the sewer
It's a precious liquid plant fertiliser!

If you want to hear more you'll have to look up the You Tube film we made of it, it's called 'The P in Permaculture'.

On another note I see that someone in Melbourne has created a successful chook marketing business where they rent out chooks with beautiful pens, so that people can try them out before they buy, which they usually go on to do. And they can't keep up with demand!

This is a smart idea and I'm always keen to hear more successful fowl tips and tales, so keep them rolling in folks!

Bullies in the chook pen

Hi Alanna,

I bought six point-of-lay pullets two weeks ago. Two Plymouth Rock, two Light Sussex and two Black Leghorns. I have noticed that one of the bigger Plymouth Rock hens is trying to mount the older Black Leghorn! Is that common behaviour with hens together? They haven't started laying yet. The breeder said that they are five months old. I am feeding them grower pellets as advised by the produce shop. Once a day I give them a bit of vegie. Should I feed them layer pellets? The two Light Sussex have been bullied by the other four chooks. I have to sit in the chook house to make sure that the Light Sussex do get to eat and drink for at least an hour. They are not bullied all the time.

Regards, Pat.

Hi Pat,

I imagine that egg laying would be a prerequisite for feeding them laying pellets. (Six months is a typical age to start laying.)

Bullying happens! Especially with a mixture of breeds. Yes, fowl nature is tainted by racism. They prefer to be with others of a similar look, size, age and temperament. And I imagine that the big hen jumping on the smaller one is just trying to assert supremacy in the pecking order. Hopefully no damage is being done in the process!

If you want to save that hour of wasted time each day I'd say stick to just keeping hens of the same breed and age at the one time in the one place. If you buy day-old chicks of the one breed and raise them they will be more of a happy family together, having sorted out the pecking order more peaceably as they grow, and bonding to you and your place better in the process.

Tenacious hatchlings

Hi Alanna,

I just thought I'd tell you a tale about my Pekin Bantams. We were away for an extended period last year. Our neighbours were feeding the chooks, but they don't have chooks themselves. When we got back one hen was missing and my five-year-old was devastated — it had been eaten by a goanna or a quoll! When we found out that the other hen was sitting on a clutch of eight eggs we were very happy. Unfortunately, she was covered in lice and we found

Lucky, the bantam who was determined to live.

it difficult to treat her properly when she was sitting. The 21-day deadline for the hatching was well and truly past when she decided to give up. We were about to discard the eggs, but thought it would be useful to check that they were fertile in the first place and, just to be sure, we gently cracked one end of one of the cold eggs open — inside there was movement! We covered the hole with sticky tape and put the eggs back in the nesting box. The hen decided to sit on them for one more day and that was that.

I could still see the chick moving under the sticky tape so I put the eggs in a box with a light. Eventually, we started to hear peeping and with a little help one of the eggs hatched. The egg with the tape was obviously trying to chip away the sticky tape so we slowly helped her out. She was a little early and stayed curled up for 24 hours, but she survived. With the help of an electric frying pan with a grate, a bit of fabric and a little water we were able to hatch all but one of the remaining eggs. It amazes me how tough chicks can be. I've attached a picture of 'Lucky', the luckiest chick of them all.

Jane Burton. P.S. Thanks to this experience we've now learned how to candle our eggs!

Hi Jane,

Well they were lucky indeed! Thanks for the photo and this story.

Usually, if you know that a hen is about to go broody and sit on eggs, one makes an extra effort to de-lice them, otherwise it's too awful for them to sit still being eaten alive! But being away, things that can go wrong tend to go wrong. So you did a good salvage job, although normally I don't recommend helping chicks out of their shells if they

can't do it for themselves, as it usually indicates weakness and they don't survive long anyway. But 'Lucky' proves that a bit of intervention in some cases can go a long way. I imagine that next time breeding will go a whole lot smoother for you and your fowl.

Egg fertility

Dear Alanna,

For the past 12 months I've had 14 hens comprising Australorp, Leghorn, Rhode Island Red and Plymouth Rock breeds. I purchased a beautiful purebred Light Sussex rooster about six months ago who was an ex-show bird that stands about 60 cm tall and is fairly quiet. 'Studley' has provided me with some beautiful chickens that grew like wildfire!

I have now added some new hens to my flock: Light Sussex and Isa Browns. Because Studley has a little age on him I decided to seek out a purebred Plymouth Rock rooster to help him out a bit. So I acquired 'Fabio': a beautiful bird about one year old.

Currently all my flock are housed at night and free range all day. I want to lock Fabio up with six selected hens and produce some chickens in a few months time when it cools down a bit.

My question is how long will it take for these eggs to be fertilised by Fabio, after running with my Sussex rooster for so long?

Hope you can help.

Regards, Angela, Capricorn Coast, Qld.

Hi Angela,

After a rooster is removed from hens their subsequent eggs will continue to be fertile for up to around ten days. So give your girls a break for a couple of weeks before Fabio is put to stud. They'll probably enjoy the rest too!

I must say that it seems a little odd that you are acquiring purebred birds then cross breeding them (unless you only intend to pen Fabio with your Plymouth Rock hens). I suppose the old 'hybrid vigour' is a good thing, as evidenced by the vigour of offspring (we don't like to talk about wildfire down here in Victoria). And you are helping to sustain the human breeders. So keep up the good work!

Caring for an orphan duck

Hi Earth Garden,

Did you know wild ducks make nests in the tops of very tall trees? I didn't know this until the children found a duckling at the bottom of one of the silky oaks out the front. We had to look hard to find the nest at the very top. Maybe it is because of the drought and heat, but we seem to be finding a number of baby birds who have prematurely left the nest. One was a Pee Wee whose nest seems to have fallen; we found it broken on the ground. Another was a group of Willy Wagtails. They came from next door and we're not sure why they fell out.

Both the Willy Wagtails and Pee Wees continued to be fed by their mothers. However the duckling seemed to just wander away, very fast, from where it fell with no sign of a mother to look after it. The overwhelming power of three children has meant that we have adopted the duckling. I put it in with a lone chicken hen who seems to be tolerating it. My question is, do I have to feed it anything special? What do mother ducks feed their babies? Will it eat the same things as the chicken? Any guidance on what to do will be appreciated. The duckling still has stubs for wings and is at the small and fluffy stage.

Yours sincerely, Yvonne.

Hi Yvonne,

Ducks have been nesting high in trees for aeons, so maybe that duckling's mother was lurking nearby waiting for the humans to leave so it could get on with the job of motherhood.

So I'm reluctant to give you or anyone else any encouragement in this regard. You didn't mention what you feed your hen. It wouldn't be able to eat big hard layer pellets, but soft wet mash might be acceptable. Commercial chicken crumble has an anti-coccidiostat chemical in it and may not be appropriate. Cooked oatmeal or wet breadcrumbs might be ok, although white bread is about as nutritious as the packaging it comes in. I hope the poor thing has survived!

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Chook Gallery

A Pretty Perch

by Jan Molluso
Echuca, Victoria

I was checking to see if my new Silver Spangled Hamburg and Golden Laced Wyandotte chickies had found a spot on the perch for the night. I had to run back to the house for my camera when I saw them! Colour coordinated and synchronised moves! How'd they get so smart?

Jan's pattern-conscious chooks.

Back Yard Farmer **has fast become established as Australia's leading annual colour book of organic gardening, animal care, harvest recipes, sustainable lifestyles, chook wisdom and more. Here is an extract from *Back Yard Farmer Volume Four* — a book bursting out of its pages with tips, advice and truly inspirational stories from people from all walks of life ... all making the most of their back yards. See the second extract by Amadis Lacheta on page 63. *Volume Four* is available from early July in newsagents, bookshops, or direct from The Good Life Book Club — phone (03) 5424 1814 — for $19.95.**

Tania and friends plant their basil circle.

The Tomato and Basil Plant Up

When Shani and Tim ran a sustainability course for their neighbours it led to a number of community-based projects and a wonderful street planting day.

by Tim Darby
South Fremantle, Western Australia

I THINK the idea for The Hulbert Street Tomato and Basil Planting Day began during the Living Smart course that Shani (my partner) and I ran for the people in our street. For those of you who haven't come across Living Smart, it's a community-based course, usually run one evening a week for seven or eight weeks, introducing people to ideas about saving water, reducing power use and carbon emissions, productive gardening, living more healthily and so on. Shani and I had just finished our training to present the course and we decided, as first flight fledgling facilitators, we would keep it close to home. Very close — in fact just for the people in the street.

We figured there were two main advantages to holding the course for our street. Firstly, we organised to run the course at a café just down at the end of the street, so that on each Wednesday evening we could just load the laptop, data projector, screen and files into a wheelbarrow

Tim watering in the seedlings in the papasan chairs.

One month on and the papasan beds are bursting with vegetation.

and walk down to 'work' (and then quickly run home to get whatever it was we had forgotten!)

Secondly, we have the good (or perhaps great) fortune to live in a street which already has a strong sense of community. As Living Smart focuses on creating change within the community it made sense to start with an existing geographic community. And to be perfectly frank we also felt a bit less intimidated presenting our first course knowing that we were amongst friends.

Why is Hulbert Street so community minded? Well it's a quiet cul-de-sac where most of the houses are small and lots of them have front verandahs looking over the street. This and the fact that the beach, shops and cafés are all within walking distance means, that on most afternoons, you can sit on your rocking chair with a pot of tea and chat to your neighbours as they stroll past, or wave at the kids playing on their bikes. (Forgive me the digression but it's important to set the scene).

So anyway — for eight weeks the Hulbert Street mob (and a few ring-ins) braved Shani and my inexpert rendition of the basics of sustainable living. The last topic we covered was 'Community' where we did some dreaming and scheming about things we would like to see in our community and what projects we thought we could actually pull together. Somewhere between 'world peace' and 'whole-of-street garage-sale' the idea of some community gardens got floated. As Shani and I had already been experimenting with 'gorilla gardening' on our local verges we were both quite keen to see this idea come to pass.

Over the next few months several of the projects we dreamt about came to fruition including a skateboard ramp for the kids and the garage sale. In September Shani and I organised the Hulbert Street Sustainability Fiesta (more about that some other time), which amongst other great achievements raised enough money for the next big project - The Tomato and Basil Plant Up.

It's hard to pin down exactly who, where or how any decisions about this kind of event actually get made in our street. Usually it starts as an idea, which gets verbalised, which morphs into a rumour and then, if enough people

are ruminating on the rumour, it somehow starts to happen. Shani propagated more basil and tomatoes than we could reasonably plant ourselves, the kids dropped a note in the letterboxes, someone suggested we get in a skip bin to take out some of the hydrophobic, nutrient-free beach sand we live on, it turned out someone else had a big hole in their yard that needed filling — so we didn't have to get a bin, one of my neighbours ordered a load of organic compost and then, on a day designated by general consensus, it was on!

Spades flashing, wheelbarrows zipping by, dogs barking, dirt flying and by lunch time it was all done bar the shouting.

A variety of containers nestled amongst the plants on the verge.

There were two things I particularly liked about the event. Firstly, that some people who had already established their verges with native plants offered to help others out, and those people who needed a hand gratefully accepted this help.

Secondly, I really liked the way that everyone came up with their own way of doing things. Some people dug the sand out of their verges and replaced it with compost, some did raised garden beds, Shani found some old papasan chairs and lined them with plastic. Everyone went about creating their verge garden in their own way ... collectively.

When the work was done we put together a shared feast for lunch with our neighbour Shaun cooking up some sausages on the barbecue, other people raiding their gardens to make up some yummy salads or bringing out whatever treats they had at hand.

Then with bellies full of food and hearts full of cheer we barricaded the street with a couple of ping pong tables and pinged and ponged until it was time for a well-earned afternoon nap, and talked about the next big event — when the tomatoes would be ready to be made into sauce and bottled.

Don't you love it when a plan comes together?

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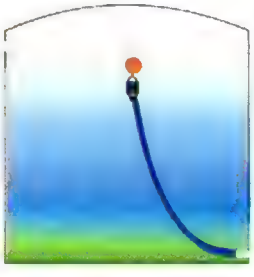

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TAKING PERSONAL TRANSPORT TO NEW HEIGHTS

Peter Pedals Builds an Ebike

Always on the lookout for the latest in bicycle technology, Peter has adapted the already efficient bicycle to take the rider and their gear over previously daunting hills.

Ready to go: Peter on his ebike.

by Peter Pedals
Nimbin, New South Wales

WHAT makes climate change such an overwhelming obstacle is the enormous amount of energy we humans require for almost everything we do. A case in point is our personal transport. Most of us have experienced pushing a car to roll-start it or to get it to the petrol bowser and have thus got a direct experience of how much effort is required to move it at even a walking speed. Compare that to riding a bike and you will appreciate what I'm getting at. In fact, a person riding the humble bicycle is more energy-efficient than using any other form of transport and more efficient than the motion of any other animal (unless you can train a horse to ride a bike).

We have been taking a seemingly endless supply of fossil fuel for granted but have been getting plenty of reminders in recent years that it can't go on much longer. Why do we have half a ton of metal and plastic to move just one or two people? It is my awareness of the unsustainability of present day transport that made me rethink how I commute between home and work four days a week. I had cycled between home and work before but found it very daunting on the trip back home with a 300-metre climb

over 12 kilometres. I decided that the only way I would be prepared to do this day after day is with some assistance. This is why I built myself a motorised electric bicycle (ebike) two years ago.

I have tried out different forms of power-assisted bicycles in the past but had found them all less than satisfactory. There are quite a lot of different ebikes for sale these days; in fact there are more batteries sold for ebikes worldwide today than for any other purpose. If you've been to China or India recently you'll understand how this is possible. The problem with most ebikes is that the motor has no gearing at all. Such an ebike may give a good speed on the flat but then becomes worse than useless when it comes to steep hills. Either it's not up to the task at all or the battery goes flat or the motor overheats because of the extra stress. This scenario makes the ebike worse than a non-motorised bike because now we have the extra weight of the motor and the battery to carry up the hill. Inappropriate application of technology can make life harder.

Electric motors for bike gearing

When I discovered that electric motors were now available that were designed to operate through the bicycle gearing, I realised that here we had a promising solution. I ordered a complete kit that I then fitted to a 25-year-old mountain bike. The kit comprised the motor equipped with a freewheeling sprocket, a motor mounting bracket, a Nickel Metal Hydride (NiMH) battery pack, a battery charger and a set of freewheeling cranks. The freewheeling cranks are a very important component of the kit as they allow the motor to continue driving the rear wheel whilst not pedalling or to continue pedalling whilst not using the motor.

I liked the NiMH battery pack that was designed to hang from the horizontal bar between the seat and the handlebars as this places the weight in the centre of the bike. The motor is fitted immediately in front of the cranks which also places this weight near the centre of the bike and avoids the cumbersome feeling of too much weight at the front or the rear of the bike. The NiMH battery pack is so much more sensible for this application than the lead-acid battery pack I had experimented with previously as the NiMH pack is a fraction of the weight of an equivalent lead-acid pack and can cope with regular deep discharges.

The motor proved to be of considerable assistance and the 10Ah 36V battery pack had sufficient to get myself back home. But it became obvious that a few modifications would improve my ebike considerably. A cyclist and a motor is like two cyclists on a tandem but with less weight than two people. A tandem can go faster and so can an ebike. What's more, an ebike with the motor working through the gearing can go up steeper hills. I already had a wide ratio 21-gear setup but now I wished for both lower and higher gears. I rebuilt the crankset to a 22-, 38- and 54-tooth chainwheel and respoked the rear wheel with a Sram Dual Drive three-speed hub with a 11- to 34-tooth cluster mounted on it. This gives me a total of 72 gears. People ask: "Doesn't that many gears confuse you?" Not at all! All I need to know is that if I turn any of my three gear levers anti-clockwise I get a lower gear and clockwise I get a higher gear. The lowest gear would now move the ebike 0.95 metres for each rotation of the pedals in lowest gear to 13.34 metres in highest gear. Some would suggest that with such a low gear you might as well get off and walk ... but ... I've got a motor, remember. So even if I do get off, I can let the ebike and any baggage or groceries power itself up the hill whilst I walk next to it.

The pedals, front derailleur gears and electric motor of the recumbent etrike

A really good thing about the hub gears is that if I didn't anticipate the next uphill correctly with my derailleur gears I can instantly compensate by changing the hub gear because the hub gear doesn't have to move the chain to a different sprocket whilst trying not to lose too much momentum in the change. I have worn out my first two battery packs after two years of riding and have replaced them with the latest technology, Lithium Ferro Phosphate (LiFePhO4). I have also done the same modifications to a recumbent etrike with full fairing.

I charge my ebike from solar power at home and at work. I leave one battery pack at home, which automatically charges up as soon as my house batteries are fully charged from the solar system. I swap the battery packs over when I get back home.

Peter's 72-gear recumbent e-trike.

I have installed a Cycle Analyst performance measuring system on my ebike. It is not measuring my metabolic contribution to the ebike's performance, which would be good to know. Nevertheless, the measured data is still very revealing in relation to distance travelled and the time taken to cover that distance in relation to the energy required to cover that distance in that time. The distance between home and work is about 12 kilometres and my home is about 300 metres higher in altitude than where I work. I use both the motor as well as pedal all the way in both directions. Whereas it takes me about 23 minutes to get from home to work, it takes about 37 minutes to get back home again. The trip to work consumes about 18 Wh per kilometre from my battery pack and the trip home about 6.7 Wh per kilometre. I generally use the motor and pedal at the same time.

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An indigenous language

You can rely on wombats. Not to leave your carnations alone (wombats love carnation buds. I stewed some in a sugar syrup and realised why — they have a rich, almost mulled wine, spicy flavour) or to work out how to get their heads out of a plastic bucket (which just happens to be about the same diameter as Bruiser wombat's shoulders).

But wombats know the weather. Our local wombats informed us via an enthusiastic mating season that last summer was going to be okay. The black wattles, indigophera and black-tailed wallabies agreed — few seeds set on the wattle, no pinky-red tide of indigophera blossom along the hill in spring and every female wallaby had a joey at heel as well as in the pouch.

But wombats — and wallabies and wattle and indigophera — only care about their own small patch. We had a gentle summer here at this end of the valley — only ten days like the backblocks of hell with temperatures just over 50°C. There was still plenty of grass, which is all that really mattered to the wombats, not to mention fallen apples and pears and avocadoes. The fact that the world just over the ridges was brown didn't matter to them.

Australia is only one country politically, and even that is recent. It was over 400 nations just a few hundreds years ago, each with its own law and lore, and it is many thousands of nations ecologically — according to its wildlife … and its bushfires.

We are not one country to a wombat or a bushfire. We are many. Any 'one size fits all' solution is going to be too simplified to be accurate. In some cases it may be deadly.

We need more words for 'bush'… or maybe just to educate people how to use 'wet sclerophyll' in everyday conversation, to know that *Eucalyptus regnans* forests (which need an intensely hot fire to germinate their seeds) vary from *Eucryphia mooreii* forests, where you're unlikely to have a crown fire that consumes everything in its path.

For that matter perhaps we need to have more words for 'fire' too, just as there are supposed to be a vast number of words for 'snow' for those whose ancestors have long lived with it. We'd have 'fire that creeps through the bush with a damp southerly behind it', 'fire which explodes from tree to tree' and 'breath of hell fire that will burn anything, till the ground is fused black behind it.' Control burning won't affect a fire like that — but it may slow down fires at other times, or in other 'countries' ... though I'd declare the area 'open' for a couple of months before any planned burn, so that the bark, tussock and other material could be harvested.

What we really need is a government that spends more brain time creating visions of what our country can be, instead of finding creative ways to say 'it isn't our fault.'

Dream on.

Winter planting

We are also many nations when it comes to gardens. It's taken me decades to learn what survives here, and which plants will keep reseeding themselves from year to year.

I've only realised lately that as the dry years have passed I've changed the times I plant things. I used to put in seeds all through summer. These days with no summer water at all for vegies or fruit except the little that falls from the sky, I plant fast growers in spring and autumn. But more and more I'm relying on perennial veg instead.

Perennials of any sort have big roots, so they can 'live on their hump' like camels. They can wither in heatwaves and shoot when it rains. And if you have a bad year — family illness, or just too pooped to plant — they'll still be there.

There is enormous security in knowing that even if you don't do any planting at all, you can still wander out and pick baskets full of perennial bell peppers or chillies, zucchini-like day-old chilcayotes, perennial leeks or 'five year' or 'runner' beans …

All of this means that winter is now one of my main planting times, not just the season to bung in the onions. It's also the season to mulch — not because it's best to mulch now, but because you won't get heat stroke, the new weeds won't get a toe hold in bare earth come spring, and the old weeds won't have a chance to seed.

Perennials to plant now

As I said — we're many nations. Choose the ones that suit your climate and your appetite.

Cassava

For frost-free areas, as long as you know how to use it, as it can kill you. Ditto taro. Taro is perennial in hot climates, annual in cooler ones and takes between six and twelve months to mature, depending on climate. If you have sunny moist ground you can get a crop as far south as Sydney

or even Tasmania if you start your plants in a tub indoors. The real necessity is moist soil, at least five hot months and preferably seven or eight frost-free months. Plant sets or corms, about 30 cm apart. Harvest when the leaves yellow in late autumn — or when frost is about to hit. Keep corms for next year. I've only ever had the fat tubers baked. They were superb. There are hundreds of other ways to use it, but I haven't tried them.

Lab Lab Beans and Pigeon Peas

For frost-free areas too, unless you grow them as an annual, and it isn't worth the hassle. Lab Lab beans must be cooked — they are poisonous raw. (All beans need to be cooked; some are more dangerous than others.) The leaves can be cooked like silver beet, the beans eaten like green beans and the seed dried for use like split peas.

Pigeon Peas are drought-resistant and will tolerate some light frost. Prune them lightly every year after picking, to encourage new growth.

Arrowroot

Plant the tuber of either common or native Queensland arrowroot, *Canna edulis*. Good in dappled shade. Eat the young roots as a baked veg or grate the root, soak and drain off the liquid and dry the flour for 'arrowroot flour' for thickening stews and soups or making puddings.

Artichokes

These are a tough form of thistle. Sow artichoke seed in spring, or plant the suckers in winter. Eat the young flower heads in spring. After the first big heads have formed, little ones follow. Eat them all. The plants multiply every year. The more you feed and water them, the more you get; but they'll crop even under extreme neglect.

Bamboo

Eat the shoots in spring. Slice them into boiling water and leave for ten minutes or until they are no longer bitter. Warning: this bamboo MUST be grown with metre-deep root barriers or in a big pot or it will take over your garden.

Basil, perennial

There are several varieties. I love Thai or Sacred basil, and Greek basil, fragrant and great in cooking though their flavour is different from common sweet basil.

Bell pepper

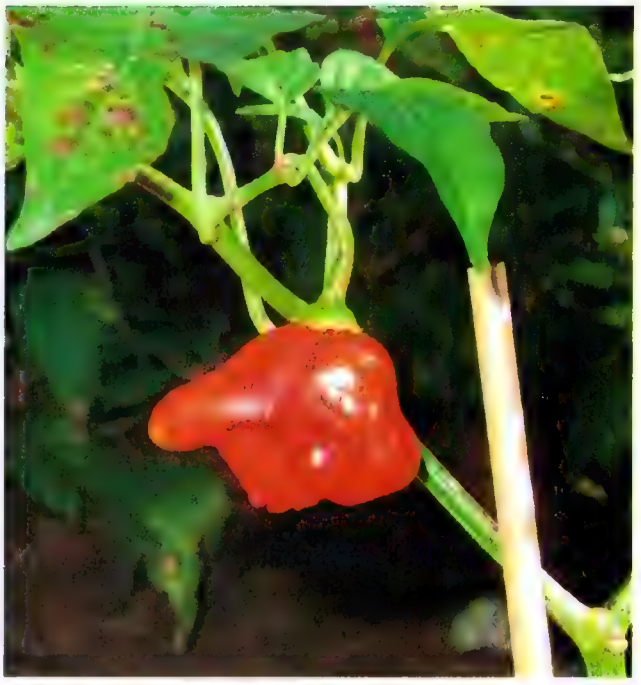
A perennial small capsicum, but mild, sweet and bell-shaped. Must be sheltered from frost, but survives here.

Cardoon

Like a more vigorous artichoke, but you eat the young leaf stems steamed like asparagus. Sweet in winter and spring; bitter in hot weather.

Jerusalem artichokes

These are a root vegetable, knobbly but good. They do produce wind, however, so eat them with friends or alone. Plant a few artichokes in late winter or spring — grub them up from mid-summer onwards, as needed, or dig them out when the tops die down. Once you've got them, though, you'll always have them — they are very difficult to get rid of.



The Bell pepper, shown here in Jackie's garden, is a perennial small capsicum, but mild, sweet and bell-shaped. Photo: Jackie French.

Oca or Oka

These are really an annual, but they will come up every year from bits left the previous year. Buy the tubers from a good greengrocer. They are New Zealand's sweet potato (really a form of oxalis) and they tolerate frost. Keep them weed-free. They're small, red and roundish and delicious roasted but must be exposed to sunlight for a few days after digging, quite unlike spuds.

Spring onions

Thin bunching onions that don't form a bulb. The clumps get bigger as the years go by. Good chopped fresh or sautéed in olive oil like ordinary onions. We use masses and rarely bother with onion bulbs.

Shallots

Wonderful mellow bulbs that multiply year to year. They die down here in hot droughty summers but reshoot in autumn.

Sweet potato

This is for frost-free or mild frost areas only. Plant a sprouting sweet potato in spring. Dig up the roots as you need them and let the rest continue to grow.

Warrigal spinach

This is an improved native weed. It runs along the ground with pointed leaves and loves moist, fertile ground. It crops as well in cold as in hot climates. It's a bit fleshier than ordinary spinach, and you need to blanch it in boiling water for thirty seconds before cooking in fresh water to reduce the oxalic acid levels. It's great in soup or spinach quiche or lasagne.

Russian garlic
Bigger bulbs and stems than ordinary garlic and hardier. I pull up ours before the bulb forms and eat like garlic-flavoured leeks. They can be left to multiply into large clumps, but if you do the stems will become thinner.

Sagittaria or duck potatoes
Pond or dam plants, crisp and good, productive and cold hardy. Sagittaria must be boiled for twenty minutes before eating.

Water chestnuts
Grow at the edges of a dam or in a bucket or waterproof pot. Plant in spring or leave in the ground in frost-free areas. Crunchy; good stir fried.

Yacon
Grows in dappled shade. Big crunchy roots; eat them grated in salad or stir fried.

Perennials for spring planting
Perennial or runner beans, possibly so-named because they run up trellises. These are climbers, and the beans become tough when over mature. There are at least five varieties in Australia. Either pick them tiny to use as green beans, or let them hang on the trellis till the seeds are dry — great cooked in winter. They don't bear well in hot weather unless the vines are semi-shaded. Mulch the roots well, as they get bigger every year and can rot in winter or wet weather once they are exposed to the air.

Amaranth
Grown for leaves and grain, either as reseeding annual or perennial. Birds love them, incredibly drought-, heat- and cold-hardy.

Asparagus
Seedlings are MUCH more vigorous than 'crowns' that have had their roots damaged and dried before they get to you.

Chicory, Italian red-stemmed
This is one of our staples, eaten young in salads or stir fries. Cut off the flower heads to encourage new leaves.

Chilli, perennial
These are usually 'lipstick' chillies, but there are others. They all need to be protected from frost.

Chilacayote melon
A perennial melon or zucchini; one vine can grow up a ten-metre fruit tree. They crop in autumn, die down in frost and drought but will return. Eat the day-old ones like zucchini, the older melons chopped in fruit salad or stir fries. They are tasteless but absorb other flavours superbly and the texture is great.

Chives
These clumps are a reliable stand-by. We add them to almost anything from omelettes to salads and stews, or scattered on meat, potatoes or carrots. Sow seed in spring or summer, or divide a clump. They die down in winter. Siberian chives are hardier if you can get hold of them.

Chokos
Hardy only to about –5°C in a sheltered spot. Plant a whole sprouting choko.

Corn Salad
Also called Lamb's Lettuce, this is a perennial green, but is often grown as an annual because the leaves turn bitter in hot weather. Make sure you only pick new leaves in the heat. Though Corn Salad is hardy and drought-tolerant, the leaves are more succulent if the plant is well treated. Sow the seed in spring; feed and water well.

Dandelions
The improved culinary varieties are much larger-leafed than the wild weed. Eat the leaves in spring, before they get bitter in the heat, or cover the plant with a box for a week to blanch the leaves to make them sweeter in mid-summer. The young roots are also good, like a sweet parsnip. Old ones are tough as boots. Sow the seed in spring and summer.

Fennel
This can become a weed. Eat the bulbs stewed or grated raw, or the tops wrapped round fish, or finely chopped in salads or stews. Bronze fennel looks gorgeous.

French sorrel
This is slightly bitter, but good in soups and in a sauce to

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The choko, seen here also growing in Jackie's garden, is hardy down to about –5°C in a sheltered spot.
Photo: Jackie French.

accompany fish. A little is good in a salad.

Garlic chives

These are flat, broad chives with a pronounced garlic flavour.

Ginger, native

This grows well in dappled shade under trees. Wrap food in the leaves to barbecue or grill or roast; use the thin roots like ordinary ginger; the berries are edible and spicy.

Leeks, perennial

Hard to get hold of. If you don't pull them out in spring they'll form clumps made up of lots of tiny leeks. Transplant if you want big fat leeks, or eat the tiddlers.

P.S. It's no accident that so many great self-sufficiency plants are long-lived and incredibly hardy trees — olives, palms of many sorts, avocados, breadfruit (a large tropical tree, that needs deep soil and lots of room. The fruit is starchy when mature but still green, and can be used like potato or sweet potato) and nuts.

P.P.S. The pic of me on the last cover was taken with a flash, which disguised the wrinkles. I only look like that in a very good light.

Experience – The Great Teacher

In this second instalment of a three-part series, Alan and Fiona give a blow by blow account of how they rendered the outside of their strawbale house, and how they'd do it differently if they did it again.

by Alan Burdon and Fiona Kotvojs
Narooma, New South Wales

WHEN we aren't experiencing a drought, our two-storey strawbale home will be exposed to driving rain from the south and west. Given the height and exposure of the walls it was very difficult to protect them from rain. As a result we chose to render the outside of our home with lime and sand and use a clay render for the interior.

To protect the bales from the weather we rendered the outside of the house first.

All the timber that was to be covered with render we coated with a straw and glue mix. The render alone doesn't stick to the wood.

The sprayer uses compressed air and can be quite explosive at times. We thought that we had covered enough vulnerable areas of the rammed earth walls both inside and out but they needed to be entirely covered. You also get the render on your clothes and gloves so anything you brush against also gets covered in render. The lime render also stained — when you washed it off it left a whitish mark

Coating timber in preparation for render.

Part way through the render process.

Cross-hatching the first coat.

Attaching a layer of fibreglass mesh.

Hessian prevents the render from drying too quickly.

Thinner areas of render were yellowish.

where it had been. Lime is caustic and messy. Everything should be covered. Eye and hand protection is essential.

Once the walls were all rendered we cross-hatched the surface with the pitch fork so the next layer would stick well.

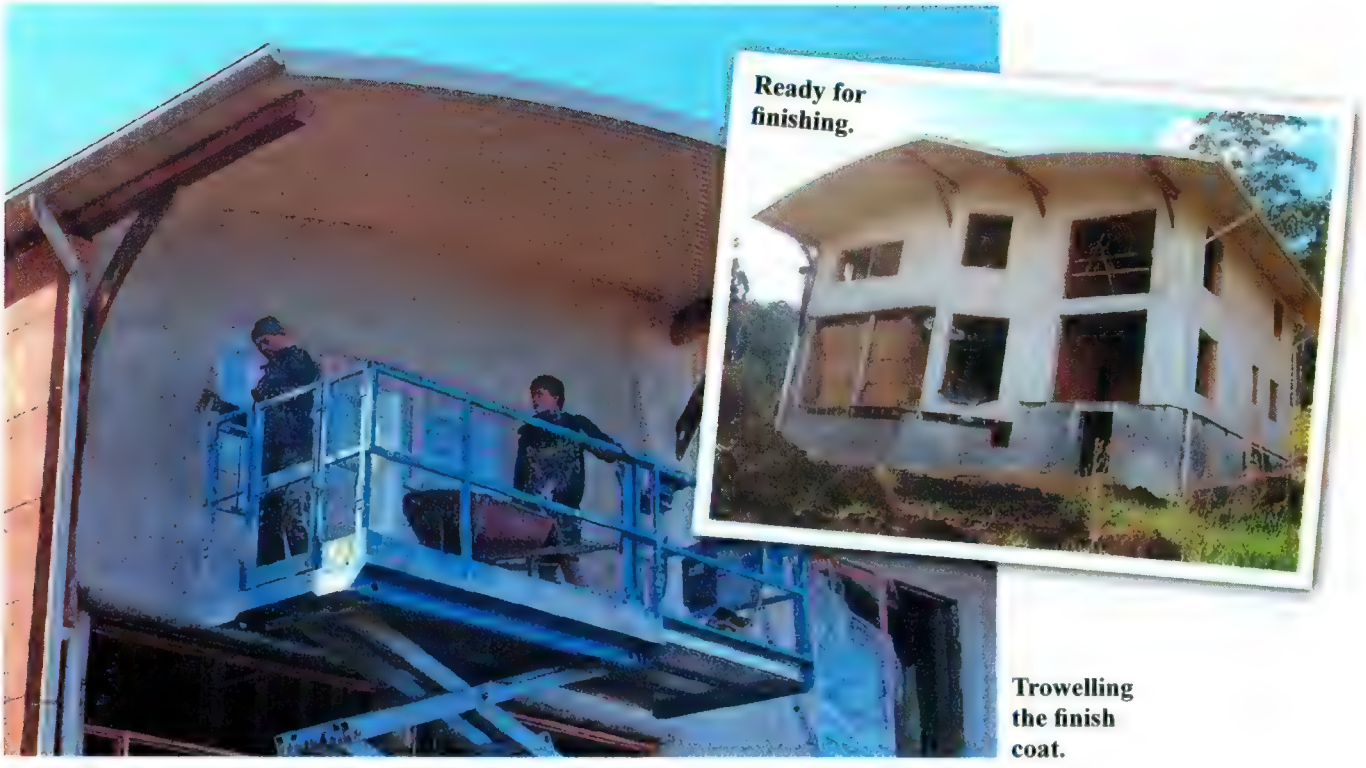
We then sprayed another layer of render, dragging large 'levellers' over it to identify the high and low points and filled the low points with cob (the better you do this the easier the next steps).

We placed fibreglass mesh around all openings and worked it into the render. Then we covered the whole wall with the fibreglass mesh and worked it in. The fibreglass prevents cracking and facilitates screw fixing.

We hung hessian from the scaffold to shield against sun and rain. The render must be constantly wetted in the early days to allow calcification to proceed slowly.

We later found that we would need a further coat of render on the outside because the initial coats hadn't been thick enough in some places and the straw was too close to the surface. Frank Thomas, of Yesterday–Today–Tomorrow Straw Bale Construction, was able to tell this because some sections of the render were stained slightly yellow (from the straw). You can see this in the above picture.

This was a result of a couple of things. When we'd done the walls, we hadn't positioned the bales in



Ready for finishing.

Trowelling the finish coat.

line well enough before we put on the tensioning wires. Once the wires were on, the persuaders didn't make the bales move much. We found we had bales that were up to 5 cm out of alignment. We couldn't trim them enough with the chainsaw.

We should have put enough cob in the low points to bring them up level with the higher points — we didn't. We didn't realise that the fluid shape (which Fiona particularly liked) of the surface was too fluid.

The moral of the story is to spend more time at the start getting everything REALLY vertical before putting on the tensioning wires. We would also change the design slightly at between-storey level to allow the bales to be pushed fully in more easily (bales can be changed in length easily, but not in width — width is more important in design than length).

Finishing coats

The extra spray coat and the finishing coat were put on in a continuous period of two weeks. This included an interlude before the final coat when the windows were fitted into their boxes to allow the render to be made up to the frames. The windows were all masked with cling wrap, which was left on until all processes were finished and then cut away where still exposed.

For the first coats the scaffold had still been in place, making access easy but got in the way of trowelling. For the final coats we used a scissor hoist, working around the building in sections.

The finish coat was entirely hand applied and extensively trowelled and floated; a very labour intensive and tiring activity. The corners of openings were carefully bull-

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Rear view before final colouring.

Front view showing plastic form achievable with strawbale construction.

nosed and silicon beads were run down all edges against windows and roof.

Final finishing was with a sponge float to polish the surface. The result is a beautifully moulded surface ready for a colouring coat of pure silicate paint that will still allow the render to breathe. This is yet to be done.

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Confessions of a Weekend Hippy

– Winter 2009 –

Going from rain dancing in the city to wilting in the country, Liz contemplates the difference that a week and a few centimetres can make.

by Liz Ingham
Clydesdale, Victoria

RAIN is a gift from our bullied planet's atmosphere. It is a symbol of forgiveness and benevolence. So no wonder I love winter.

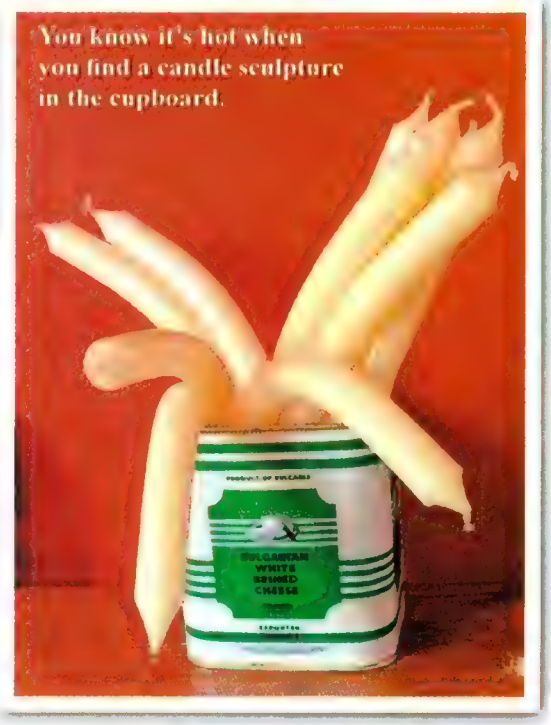
Last night I went to a rain festival in Yarraville. It started out as my neighbour Danuta's birthday party, but the sudden arrival of gale force winds and freezing rain drove us outside into the night, giggling and squealing, to participate in this rare event.

It helped that everyone was in 1960s evening dress and all the balding men wore lurid nylon wigs.

The humans waved their glistening arms and shouted encouragement at the sky as the wind tore at their spangly false eyelashes. A slender eucalypt domesticated in the next back yard twisted and boiled in a dance it was born to perform.

When I arrived at Clydesdale this morning, there were puddles on the ground and the air was filled with the soft energy of humidity. It was the first real rain of the year, in mid-March, but I'm all optimistic now.

Despite everything I know about climate change, despite believing that the weather in this part of Victoria has flipped and will never go back in my lifetime, despite the big fat zero in the rain gauge records for January and February, I know I'll be planting spinach seeds as soon as I finish writing.



Shade

Part of my optimism is from the food garden powering on through the heat last summer, as it has every summer since we rebuilt the garden beds with a lining to keep out tree roots and conserve water, and we learned to use shade. If you can keep the soil moist and stable, and filter the worst of the direct sun, some plants love heat.

I would add to this keeping the resident flocks of 20 or more white-winged choughs from scratching away the mulch with their enormous feet, but this possibly doesn't apply to you.

Lining garden beds isn't the best method for everyone, as you have to really understand how plants work, so the soil doesn't sour in winter or get compacted. It's also a bit ugly until the plants grow up. And you can't use stakes, forks or spades in case they puncture the liner. But it works.

In summer, there were two weeks when it was over 35 degrees every day, and peaked at close to 50 degrees. After that, elsewhere in my desiccated state, trees exploded into flames. Inside the house, candles melted into sculptures, even in the back of dark cupboards.

In the food garden, at the start of this hellish period, I planted zucchini seedlings, watered them, threw an old white curtain over their tiny leaves and went to Melbourne for the week. The next weekend, they had grown about four-fold. Three weeks later, I removed the covers from plants that were ready to flower.

Zucchinis one week after planting.

They grew a bit leggy and tended towards male flowers because of the shade, but now, a month later, you can't tell the difference, and I have a pot of zucchini noodle soup simmering on the stove.

During the worst of the heat, I also shaded tomatoes, capsicums and eggplant. They were fine, other than having worse problems with microscopic mites than usual — I use wettable sulphur against mites, if I can be bothered. What amazed me was that salad vegetables thrived, safe under their gauze curtain cover.

The mud-house

Having established that lettuces stayed crisp in the heat, I'm ashamed to confess that the humans wilted. Trevor is hardier than I am, but eventually even he gave up.

We live in an age where solid rock must be jack-hammered out of the ground and replaced with concrete footings to comply with a building permit, and our ridge-top is made almost entirely of rock and shale. It was pitiless work in the sun.

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Then just when we thought we were ready to set up formwork in the trenches, Trevor had a brainwave and persuaded me to help set up a dummy run of the steel frame we'd purchased, to make sure the measurements were correct.

Our lesson for that weekend was that a 6 m x 4 m shed does not have a 6 m x 4 m frame, with posts at each corner, 6 m and 4 m apart. No, it has a smaller frame designed to be placed within a 6 m x 4 m slab. It's the outside edge of the cladding that comes with the standard kit that's meant to be 6 m x 4 m. But we weren't using the standard kit.

We got a permit to use strip concrete footings and an earth floor instead of a slab, and light earth walls instead of the cladding. We'd designed the footings to match the width of the thick walls, with enough extra width to keep the posts safely away from the edge of the concrete.

Reading over those two paragraphs, I can see how anyone might think "So, what's a few centimetres between friends"? You'll just have to believe me when I say that the rock here is solid, and knowing that two precious weekend days were probably wasted hammering out a few centimetres we don't need, and a few more will be needed to hammer out the centimetres in the direction we do need them, and the formwork will need to be adapted, and we've probably outlived our welcome with the good-humoured bloke who lent us the jackhammer, was enough to make us take a break for a cup of tea that's lasted about a month and a half.

It is a very sad and boring fact that buildings must grow downwards before they grow upwards. Much like plants, only infinitely less awe-inspiring.

Zucchinis two weeks after planting.

I started this project dreaming of dipping handfuls of straw into lovely smooth buckets of clay slip (some of us have different dreams than others, I accept that, but go with me on this) so it's very sad to know that we will move on to winter, when mudding is impossible, before the footings and frame are completed.

Winter

I am looking forward to winter, though. I care less than I used to about being cold and damp, and the warm seasons can be pretty hard work — both in terms of heat stress and completing the tasks we set ourselves when the days are long.

I'm ready for the ground under my feet to soften and yield. The landscape is so brown these days that right now I think I'd even welcome oxalis. For about a week.

I will enjoy the forced holiday of being too cold to go outside and work with my hands for any period. Around dusk, I will light a fire under the outside bath and end a day spent in contemplation of the space around me, with an evening contemplating outer space. I wish you a benevolent winter.

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A Shameless Plug For The Kitchen Sink

If you've ever had that sinking feeling when it comes to washing the dishes, check out what Jill has to say about reinventing the process. Your angst may just drain away.

by Jill Redwood
Goongerah, Victoria

THE kitchen is an important part of everyone's daily life and it has so many important connections to our planet and the impacts beyond the draining board and plug-hole. So hang about while we give a plug for the kitchen sink.

You know the old saying "It starts as you sink into his arms, it ends with your arms in his sink." The implication is that a sink is a symbol of women's housebound drudgery. But let's look at it more holistically — from washer-upper welfare through to its planetary welfare. And men are in this picture too of course.

Sink ergonomics

If you're building a kitchen, placement by a big east-facing window to catch the morning sun is a prime consideration. If this window has a pleasant garden or tree view outside and a touch of morning sun (no — not the dishwashing liquid, silly) it can amplify your endorphins for the morning — not quite yoga but it's not a bad place to contemplate.

Another absolute essential is to have a sink that's high enough for you to comfortably use without stooping over. Standing upright, you should be able to lay the palms of your hands on the bottom of the sink without bending at all. There are too many kitchens that are designed by those who don't have to use them. Washing dishes should never

force anyone to bow down in a subservient possie. Stand tall as you clean and scrub!

Water

Kitchen sink water is generally considered to be black water for recycling purposes, because of the fats, oils and high organic content — the same category as toilet water. This means it shouldn't be re-used without treatment. But in my view, you can minimise putting muck down the sink and make the water suitable for natural recycling systems so it won't poison the environment.

As water is a big player in the kitchen it's probably a wise move for us all to use water as if we lived in a drought-stricken outback settlement. I'm sure those of us who need to conserve water have worked out ways to economise on this precious item. Gardens, showers and the laundry are normally the worst guzzlers (not mentioning logging, industry and agriculture, of course).

I know this will upset many a well-raised person — but consider adopting the new after-dinner habit of licking your plate clean. I've had a sign near the kitchen for years saying: "Visitors are encouraged to lick their plates", but their upbringing has been fairly rigorous and few people can bring themselves to perform such an unsophisticated act. But just consider it — if the meal was delicious, why waste the best part — the juices, oil and combined titbits? It's no worse than licking your spoon or fork and it saves loads of yummies going into the wash-up water as yukkies.

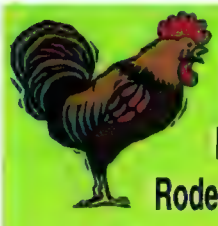
If you have only a few dishes, use a small plastic tub to wash in, or measure how many litres you use in a normal wash-up and how many you might use by dribbling the tap (and I do mean dribbling, not gushing) and rinsing those few dishes underneath it.

If you use a benign block of soap (not detergent) the water can be redirected to a homemade garden water recycling system outside the window. Water diverters are easy to install and if you hook it up to a length of poly or hose with holes drilled or burnt into it, water is distributed evenly. Just remember to make the holes big enough so that sink gunk doesn't block them.

Down the plug'ole

What concerns me most about the kitchen sink is what goes down it. The old 'out of sight out of mind' thing doesn't wash these days. Nasty chemicals aside, most of us have used a liquid detergent of unknown ingredients but smelling freshly of artificial lemons, all in a plastic throw-away bottle and even with happy leaping dolphins. These bottles are designed to be fun to squeeze and then we can watch the suds form under the tap. How could it possibly be harmful? I'll wager that what gets squirted into the sink every day is about five times more than is needed to clean the grease off dishes. I've watched this phenomenon many times. And that's without even looking at the brew of unpronounceable chemicals in the stuff.

My own sink drains via a grease trap, into a reed bed, then to a healthy seasonal billabong in the paddock. This makes me extremely aware of what I put down the sink. As I pull the plug out and let gravity send it off through its various filters and traps, I know that the small amount of pure soap will be gobbled up by micro-organisms enroute and isn't going to upset the frogs and ducks when it gets there.



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Soap isn't essential for most dishes. Non-greasy dishes can be washed first in a clean sink of water or under a dribbling tap (even in cold water), like cups and glasses, plates or breakfast bowls. As these then don't have a soap film over them they don't need rinsing.

That gets rid of about two thirds of the pile. For the rest I use a dishcloth wiped across a bar of pure soap (my friend goes further and only uses vegetable oil-based soaps). That's all that's needed to cut the grease off plates and saucepans.

Vegetarian households have less need for heavy-duty grease cutters. When the water is let out, a little soap on the cloth can be used to wipe any grease ring off the sink's sides. It takes eight to ten weeks for one block of soap to end up down the sink here using this method — and I'll wager my dishes and glassware are as sparkling as anyone's — nya. However, with suds-loving visitors helping with dishes, a block of soap ends up out with the frogs every two weeks.

Healthy sink habitat

You don't need chemicals to kill germs. The way germs breed is usually when you have dampness, food and/or dark. Keeping the draining area and bench tops wiped clean and dry and with a sunny open window by the sink is better than any chemical cocktail in a bottle.

Dishcloths and even tea towels can offer high-quality habitat for germs. I know from experience that dishcloths have caused many a domestic dispute that come close to causing break ups. The non-trained leave them in a wet pile, sitting in a pool of stinky grunge until they begin to crawl about on their own.

I remember a study by a group of 'germologists' years ago that found that the kitchen dishcloth harboured the most and worst bacteria in the house. Little wonder. Rinse it, squeeze it out and hang it by a window, over the tap, anywhere that it can dry a bit and not be sitting in a pool of smelly dishwater all night or day. Throw it in the washing machine occasionally to de-grunge it, or rinse it in a dilute solution of vinegar to de-soap it.

Tea towels can just be dispensed with if you let your dishes drip dry.

See now — the sink isn't as boring as you first thought and it's a convenient place to start your domestic revolution for the planet.

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Organic Pioneering in a Desert Community

Sustainable living is being adapted to many parts of the continent, not just to those that are densely populated. Here Gillian tells about living and gardening well off the beaten track.

by Gillian Kennedy
Broome, Western Australia

IN THE surroundings of the tiny desert community that we call home, the landscape is vast, the earth red and the environment harsh. Most of the year the climate is hot — like an oven. And dry.

My partner, Wade, and I live in a remote Aboriginal community in the south-east Kimberley region of Western Australia. The community is small; only about 120 people live here. We are lucky to live close to a large lake system, which brings us much-needed respite in a number of guises — sunset-watching, swimming, bird watching and kayaking. But much of the time, I'm happy at home, where we've turned a modest portable house into a desert oasis.

Wade started the garden when he first arrived in 2006. It began with just a couple of wheelbarrows, but has now expanded to quite an extensive area, where we grow a wide variety of fruits and vegies, including tomatoes, watermelons, rockmelons, zucchini, pumpkin, Asian greens, basil, chilli, salad leaves, paw paws ... to name just a few. Our garden provides a refuge from the harsh environment, and I find pottering about and pruning tomatoes good therapy for the challenges of work and community life.

I have been described as a bit of a foodie, so good food is high on my priorities list. Growing our own fresh vegies, herbs and fruit ensures that we still eat well, despite living so remotely. The selection of available foods at the local store is good, compared with your average community store, but lacking, to say the least, for someone who loves to cook and eat as much as I do. Every time I devour one of our super-sweet rockmelons or bite into a juicy red tomato (which I tend to eat like apples), I get a little heart-flutter of joy. We often have people coming and going from our house — travellers to the lake, friends, community members, project workers — and often have an abundance of fruit and vegies at one time, so we tend to load people's arms up with various bits and pieces for their camping trips or long drives, which inevitably gets a thumbs-up from the weary travellers.

Happy traveller, Susie, heading back to camp to make bush foccacia with tomatoes and basil.

Most things we've grown have done well, except in the extremely hot and wet months, around December and January, when lots of the more delicate herbs and salad greens simply

Above: seeds from the *mungily* plant are used to make damper.

Right: Wade and a big bowl of cherry tomatoes ready for squashing into tomato sauce.

wilt in the afternoon sun. Watermelons, rockmelons and tomatoes are our saviour during this time. Whenever the local kids come around, the first thing they say is, "Can we have a tomato?" I've been teaching them about putting combinations of food together, so lately they've been having a basil leaf with their cherry tomato. The local women often come around and ask for seeds or seedlings so that they can grow their own at home.

The locals have taught me a lot about bush tucker, too, much of which is in abundance right on our doorstep. I've tried a number of bush foods, including *kumpupaja* (bush tomatoes), *jurnta* (bush onion), *karnti* (bush potato), *purnungarna* (bush blackberries) and *parlapi* (bush coconut), and there are many more on my list to try. I went out to a clay pan recently with some women and school children to collect a special seed called *mungily*, which, after a simple but lengthy process of salt-extraction, drying and grinding to a fine powder, can be mixed with water and kneaded to make a bush damper.

My long-term aim out here is to be as organic and self-sustainable as possible, so aside from the garden, I've begun making small changes to my lifestyle to avoid buying commercial products when I can make my own, often better and cheaper. I bake my own sourdough bread, make pesto and mayonnaise, and have also started making my own cleaning products using natural ingredients like vinegar, bicarb and essential oils. Three chooks out the back provide us with all the eggs we need. I tend to go a bit crazy when I go to a large town or city, spending lots of money and eating out a lot, but it doesn't take long before I start craving community life, where I can once again get back to a more simple existence.

When we're not in the garden, we spend much of our time on the verandah, which houses a lounge, television and dining table. We use it year-round, adapting it for the

Early days — we started out by planting in old wheelbarrows.

Left: Gillian undertaking her favourite therapy — pruning tomato vines.

extreme heat and cold. For the winter, Wade constructed a pot-belly heater out of a 44-gallon drum, some old post-hole digger handles for the base and a flue made out of a bore-casing of a Southern Cross windmill, which he found at the tip. In the summer, air-conditioning consists of a fan and a good hose-down of the hot tin roof and the wooden deck. The tomato vines that line the wall on the outside of the verandah provide much-needed shade in the afternoon, and contribute to the tropical atmosphere on the inside, helped along by the hanging pot plants, hammock and bamboo reeding that lines the walls. If it gets really hot, we have a fairly substantial blow-up pool out the back, which is great for an afternoon refreshment or lunchtime pick-me-up.

Perhaps my favourite aspect of our desert oasis is the termite-mound pizza oven, which makes great pizzas, lovely roast vegies and, as I've recently discovered, top-notch sourdough. It's a great conversation piece and the local mob are both intrigued and entertained at its inclusion in our front yard.

I've often strived for a more simple life, one that gets back to the basics of fresh, healthy food and relies on good friends and good conversations. Here in the desert, I think I've found it.

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My name's Dana Steddy, CEO and Founder of **Envirocare Holdings.** But before that I was simply known as Mum to my 4 young children. Trouble was, 3 of them suffered horribly from eczema. Little did I know it was the toxic residue from my laundry detergent that was partly causing these flare-ups. I soon wised up, took control of the situation, and found a safer non-toxic alternative. And then I started my business so every one could benefit from my findings. Here's how... They are called Miracle Wash Laundry Balls. A safe, non-toxic way to wash your clothes that leaves your laundry smelling fresh, clean and naturally soft.

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White flowers of carrots, yellow of dill and a single lettuce flowering in the middle at the back.

Creating Diversity in Food Plants

Evolving food plant varieties by selection has happened from time immemorial. As the legendary founders of the Seed Savers' Network explain, not only will your plants become better adapted to local conditions, but they'll be more vigorous as well.

by Jude and Michel Fanton
Byron Bay, New South Wales

THE best gardeners and farmers save seeds as a routine. However some seed savers don't just faithfully reproduce traditional varieties but also create their own local adaptations. They help expand Australian garden biodiversity.

The entirety of food-plant genes forms our heritage, not just individual so-called heirloom varieties. As we re-jiggle the genes, the gene pool is more vital.

Keeping named varieties frozen in time is pointless. With changes in climate, plants must adapt. The diversity of food-plant genes is best in situ — in gardens and farms — evolving with swinging temperatures, changing rainfall patterns and increasing carbon dioxide levels, in the care of those who grow and eat it.

These are our arguments against entrusting the genetic diversity of tomorrow's food to long-term seed banks and very cold storage vaults.

We are also underwhelmed by the extent of seed importation, a practice all too common with Australian seed companies. Gardeners in each region need to nurture and create their own varieties.

We offer the following strategies for maximum long-term diversity in food plants: abetting self-seeding in the vegetable garden and propagating fruit trees from seeds.

Throwing the genetic dice

Saving vegetable seeds involves meticulous tasks such as harvesting them on time, cleaning, storing and replanting them. Self-seeding is the most effortless way to propagate salads, some herbs and root crops. They form a seedhead after flowering and will produce hundreds, if not thousands, of seeds; 100,000 for a healthy large lettuce. Bask in the abundance.

Broadcast the seeds around with abandon; only aim for territory with good soil, perhaps recently weeded, fertilised or cultivated. You can assist crop rotation by broadcasting the seeds on another area each year. Not all the seeds will germinate. The minimum effort overcomes the downside of wasting seeds.

Mangoes at home in India.

Thinning the seedlings is crucial. Select the best plants for seeds at all stages — as they germinate, grow and flower. Pull out diseased, deformed and runty individuals, keeping the best by your standards, such as those doing best in drought times. Leave until the seeds are fully mature, and recommence!

When we first met, Michel impressed Jude by gently tapping the head of a seeding lettuce onto new beds, invoking the lettuce spirits to revisit! Which they did, en masse.

To abet the process, whack the mature seedheads on vegetable beds, around the edge of perennial beds, in the orchard and onto semi-cultivated areas such as fallowed beds with excellent soil.

For root crops, let the biggest and best ones go to seed. Slip a finger around the crown to gauge the size. We are in shallow heavy soil so we are not the world's best carrot and beetroot growers, but our Hollow Crown Parsnips and Black Palestinian, Red Long and Daikon Radishes have been successfully self-seeding for over eight years and they do better each season.

Throw around the seeds of herbs such as French Fennel and large-leafed coriander, parsley and basil. Better these than weeds!

These salads will readily self-seed: lettuce, rocket and chicory. Over ten years five varieties of lettuce have adapted to our conditions and gardening styles: Continuity, Gold Rush, Red Italian, Red Mignonette and Freckles. Luckily lettuces do not cross-pollinate so each variety has remained distinct.

Our preferred rocket is Nonnie's (Grandmother's) Giant Arugula as it is large and very tender and we avoid letting smaller varieties go to seed so as to avoid crossing. We disseminate our favourite leaf salads — five varieties of chicory — onto the edges of pathways and lawns as they do well there and fill that gap. In fact chicory and Italian Parsley seem to prefer compacted soil.

Creating diversity in fruit trees

Fruit varieties are now in the same parlous state as the proverbial cricket ball tomato. Supermarket varieties lack taste, and therefore nutrition. Stone fruit breeders, such as the world's largest, Zaiger Genetics (Zee Sweet is one of their logos), routinely select for less acid and more sugar content. A 2004 New Zealand survey of fifty-nine apple varieties found that there are more antioxidants in traditional varieties and seedlings than in modern cultivars. See the report on our website.

Most gardeners prefer to grow grafted fruit trees because as clones they produce predictably and yield early. Rare fruit groups do an excellent job of conserving traditional varieties through grafting. But consider also throwing the genetic dice. If you have the space grow fruit trees from seed.

We do it with mangoes. There are twenty old local varieties grown from seed in our gardens and we are observing which performs best. In our area farmers used to plant mangoes as windbreaks for cattle. One sea captain brought back a dozen varieties, all delicious, from India, the home of the mango. The trees are about a hundred years old and fifteen metres high, twenty across. One has a cherry flavour, another banana, another small one stays green and has a distinct heavenly aroma.

But they could be the living dead, like old trees in sheep paddocks. Their diversity needs maintaining.

For thirty years we have harvested mangoes from public parks, along roadsides and, with permission, in fields. Our roles are specific: Michel slithers to the end of the pendulous branches and detaches the heavy fruits. Jude catches them. We average 300 mangoes per season.

Over the years two towering trees in public carparks became our favourites. One had a strawberry skin-blush and flavour, the other pineapple; both delicious. Two years ago they were cut down. Razed for more space for cars. We have the heavily pruned seedlings in our garden. It's a gene bank for those salubrious sea captain's varieties.

In conclusion

Aim to grow your own locally-adapted varieties of food plants through mass seed selection. Allowing plants to go to seed freely means they may cross with other varieties nearby. The genetic dice is thrown again. You have the opportunity to create adaptations to your local conditions, gardening style and palate, and increase the diversity of tomorrow's food!

In twenty-three years Seed Savers has received 8500 samples of seeds from around Australia and redistributed them in half a million packets to thousands of seed-saving gardeners. Now we are decentralising into Local Seed Networks that collect local varieties and multiply and share them. There are now eighty around Australia.

If you would like to learn more about local varieties and meet seed savers in your region, contact your Local Seed Network. For a list, see www.seedsavers.net. If there is not one near you, consider forming one. We will help you.

• *Jude and Michel Fanton are the Directors of the Seed Savers' Network and authors of the best-selling book 'The Savers' Handbook', which is available from good bookshops or by mail order from The Good Life Book Club, phone (03) 5424 1814; see also the review of the new Seed Savers' DVD on page 69.*

From Spade To Blade

Garden Recipes by Gary Thomas

While lathering up for this year's Royal Melbourne Show, the gardening chef passes on some rare potato dishes and a brace of tangy condiments.

"NOT MORE potatoes", groans my inner funky squad, "can't you find anything else to talk about." And I would have, if not for a conversation with a recently off-the-grid lifestyle convert who told me about the large potato crop he'd planted and remarked that if you have potatoes you don't need meat.

Hmmm, I thought, excellent source of complex carbohydrate, low fat, low salt, hugely important source of vitamin C; this has got to be worth another look.

This time last year I was in a complete lather as we got Spudhunters ready for a high profile outing at the Royal Melbourne Show. Twelve months down the track nothing has changed; in fact, I've got enough lather ready to shave down for an Olympic swim event!

In 2008, we had about 10 000 kids through the activity. This year the Show has asked us if 30 000 children can participate. Excuse me, could we please have another one! Oh, and about 150 volunteers as well would be lovely.

Why do it? you may ask. Simply put, the returns are magnificent.

Most of the time, my food education activities are enjoyed by people who are on the same page. Or if not, at least they're reading similar books. And I reckon we're all in the same seven percent of the population anyway.

One of the best thing about doing Spudhunters at the Show is that we are getting the message across to the other 93 per cent of the population.

One of the principles in Spudhunters is biodiversity, and so we had around twenty varieties of Victorian potatoes on display for parents to look over while their kids played the game. This engendered a whole pile of astonished faces from people who stopped dead, blinked, and told me they thought there were only two types of potatoes.

When I asked what they were, these people replied, "roasting and mashing" (fair enough), "new and old" (a classic world view), "red and white" (a simple answer) or "clean and dirty" (I kid you not).

So engaging with these people in their hundreds each day, going on to share a vision, a cooking technique or a planting tip, and sending them off with a new thought, is just about the most satisfying work I can imagine.

Preserved lemon: expensive to buy, but all it takes is time.

Preserved Lemon

Preserved lemon is one of those things that are always really expensive to buy yet so easy to make. All it takes is time.

1. With a sharp little knife, quarter the lemon, leaving it connected at the stem end, opened out like a flower.
2. Stuff the lemon with salt. I use 1 or 2 teaspoons of whole coarse sea salt per fruit. Reshape the lemon and place in clean jar with good lid.
3. Repeat until the jar is full, pushing lemons in tightly and dropping in the occasional bay leaf or cumin seed.
4. Top the jar up with fresh lemon juice, making sure the fruit is completely covered.
5. Keep out of direct sunlight but in front of your face for six weeks, shaking and inverting daily. You will observe the juice slowly becoming more viscous and the skins softening. The lemons are now ready. Use sparingly.

Chermoula

This little paste is a beauty.

10 peeled shallots
4 cloves garlic
2 hot deseeded chillies
Half a cup chopped coriander
Half a cup chopped mint leaf
Quarter cup chopped parsley
2 teaspoons turmeric
Half a teaspoon black pepper
1 chopped preserved lemon
1 tsp cumin seed, toasted and ground
200 ml extra virgin olive oil

Rub on tofu or trout from the farm dam for an hour before cooking. Bake, grill or fry.

Boulangere Potato

Olive oil
750 g waxy potato such as Nicola or Desirée
2 onions

Potatoes — a substitute for meat?

2 cloves garlic
2 knobs butter
2 cups vegie stock
Parsley, salt and pepper

1. Rub some oil over the base and sides of a baking dish. Preheat your oven to moderately hot.
2. Slice the potatoes and onions thinly. Finely chop the garlic.
3. Put a layer of potatoes in the dish, topping with some of the onion, garlic, salt, pepper and parsley. Repeat until all potatoes are used.
4. Using an egg slide, press the potato down firmly and scatter little plucks of the butter over the top.
5. Pour the stock over. You can preheat it if you want to shorten the cooking time.
6. Bake in the oven for up to 90 minutes, checking the top is brown but not too brown. Cover if necessary. Serve with the fish or tofu and greens.

Ticinese Potato Sauce

Ticino is an Italian-speaking canton (state) in Switzerland on the southern side of the Alps, and is quite different in tone to the rest of the country. For hundreds of years the trade route across to the Italian port of Genoa has delivered barrelled anchovy, which the locals combine with dairy products to make this sauce. Originally made with butter and cream, I have substituted olive oil instead for a lighter finish.

20 anchovy fillets
6 garlic cloves
1 chilli red
10 sage leaves
2 bay leaves
350 ml olive oil
50 g unsalted butter
2 tsp salt
1 tsp pepper
1 handful parsley, washed
1 kg potato such as King Edward or Pontiac

1. Combine everything except the potato and blend to a fine sauce.
2. Wash the spuds, dry, leave the skin on and dice into 2 cm squares.
3. In a large bowl, toss the potatoes in the sauce to coat completely. Bake on a shallow tray in a hot oven for 25 minutes, turning once or twice.
4. Eat as a snack with a light red wine between 5 and 6 pm or at any other time.

The most popular question asked all week at the Show is, without a doubt, "What is the best roasting potato?" Notwithstanding complex questions of age and hibernation cycle and sugars and starch, the assembled panel of daily farmers and foodies chewed it over and generally agreed that an old fashioned, currently unpopular, and hard to find variety is still the best.

It's Kennebec, Kennebec, Kennebec.

Cheers, Gary Thomas.

Farewelling Tiny

Tiny the Angus grew up with Scot and his brothers. Although her premature end created difficulties solved only by considerable ingenuity, it did inspire a new approach for one onlooker.

by Scot Gardner
Churchill, Victoria
Photos by Joan Gardner

THERE was nothing tiny about Tiny. She was black and was named after my aunty and uncle's cat — also black. She was big, even for an Angus. She was born on Mum and Dad's place when I was still at school. She was part of the landscape there and this is how she died.

My uncle used to work at the university but he's retired now. My aunty loves a little luxury. Her blood is suburban and she has allergic reactions to the thought of a long-drop toilet but she offered to look after the animals while Mum and Dad line-danced their legs off on Norfolk Island. There were two cows, a mad hand-reared sheep, a deaf cat and a flock of mongrel-bred chickens that never stopped laying. The cows and sheep were lawnmowers and Dad assured Uncle that they would look after themselves.

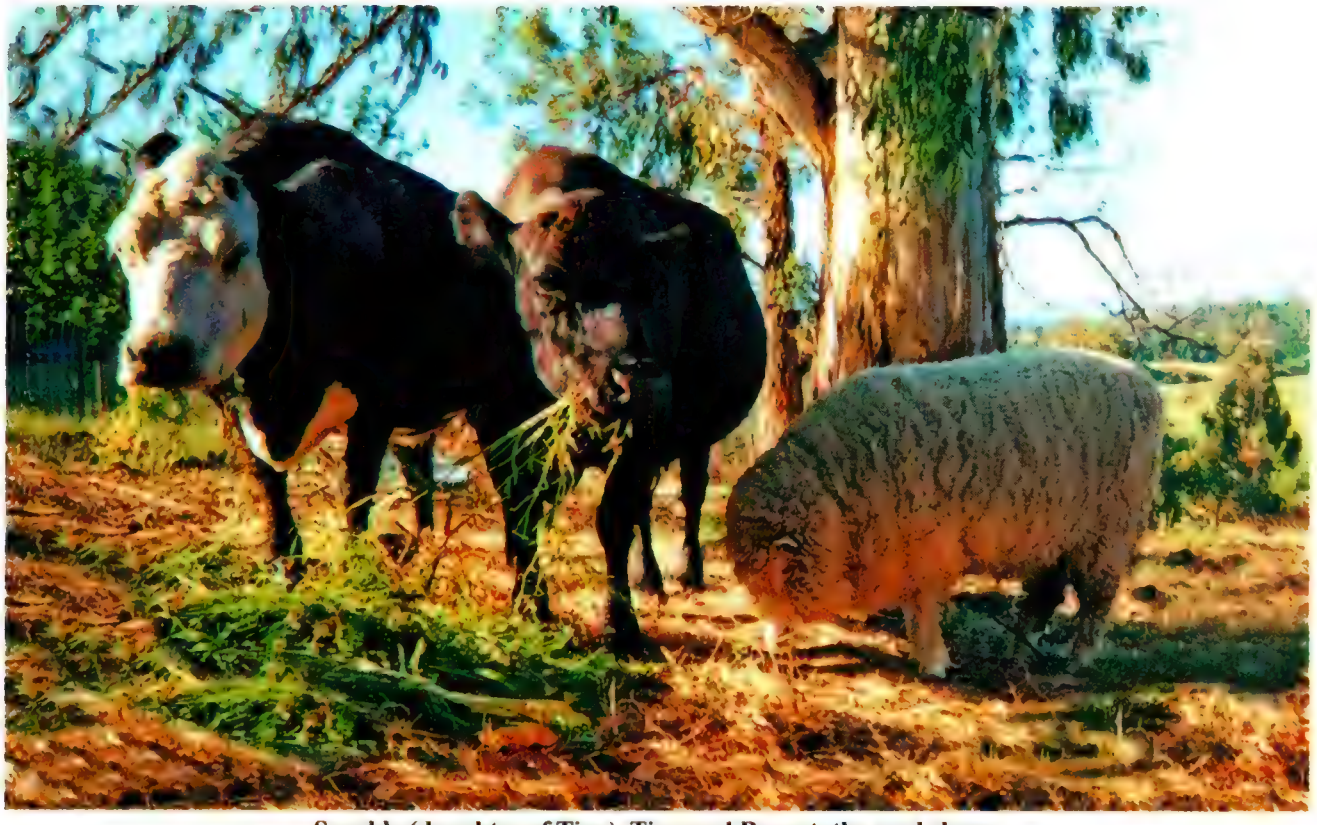
Famous last words, indeed. While my parents were still winging their way to the land of the funny pines, Tiny — the entire tonne of her — slipped head first into the little creek at the bottom of the hill and drowned.

My youngest brother and I responded to the distress call. My aunty was on the verge of tears. Liam drove his battle-scarred Range Rover (the one with the Homer Simpson figurine glued to the hood) down as far as he could and we inspected the sorry sight.

She was submerged to the brisket on the steepest part of the creek and we couldn't leave her there. Perish the thought. We hatched a plan to tow her out with the Rangey and drag her somewhere where the stock removal dude could park his truck. Not very elegant, but a plan born of necessity. Fearing the unthinkable, we resolved to attach the tow strap not around her legs, but around her neck. But the tow strap wasn't going to loop around her submerged neck by accident and it was I — shivering in my jocks —who drew the shorter straw. It was about then that the sad became the horrible, but it got worse.

The Rangey couldn't budge her. Spinning on all four wheels, we called the cavalry and it arrived in the form of Jay with his Range Rover (the one with the winch and the modified badge that now reads Hang Over). Together they dragged her through the paddock and up beside the house — the closest bit of flat ground — and the removal agent was duly called.

Above: the special 'Tiny' cake at the wake.
Left: Tiny, the Angus, was part of the landscape.



Sparkle (daughter of Tiny), Tiny and Baaart, the mad sheep.

She'd been dead too long. She was no use to the removal agent; they only want the freshly dead. We couldn't leave her beside the house. Perish the thought.

It was the removal agent who suggested the pyre. Said cattle burn really well and it'd save us digging a hole the size of a VW Beetle in ground that sparked with every blow of the crowbar. So Liam dragged her back down the hill to a proud little ridge beside the swamp. A fitting place for a pyre.

She burned for three days and three nights and after work each night, my uncle and aunty helped me pile wood on top to keep the flames hot. It turned the saga into a sort of ritual that culminated in a wake over the last of her ashes when my parents returned from the island. My grandmother, frail and well into her eighties, was ferried to the site on the back of the four-wheeled motorbike and we drank and laughed and cried for the mighty Tiny.

At some stage during the proceedings, Liam disappeared. Just up and left. It wasn't until I heard the little motor that I realised he was back. He'd launched his paraglider from the other hill and was now winging his way overhead. The motor revved then stopped and as we all watched and held our breath, he opened a plastic container and shook the contents into the air.

Tiny's ashes.

Nanna, with a tear in her eye, sighed a stuttery breath. "When I go," she said, "scatter my ashes like that. That was beautiful."

Perish the thought, but yes, nanna, yes. If that's what you want.

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Questions & Answers with Jackie French

Alas, Jackie is snowed under (so to speak) at present, so please, no more questions for the time being until she comes up for air.

Plague of locusts

Hello Jackie,

A couple of years ago when we first bought our farm there was a plague of little brown grasshoppers; they ended up eating the complete garden which was new at the time. The front lawn died and just about every leaf was eaten.

They have come back again this year and they are currently 0.5 cm long … And they are everywhere in the garden, including the new vegie patch. Have you please got any suggestions of what we can try to do. Thank you very much Jackie.

Cheers, Cindy.

Cindy,

Plant in groves. Grasshoppers are just that — GRASShoppers. They don't like groves. They'll eat the outside but won't penetrate far in and will avoid your area if they are on the move. (Our area gets plague locusts most years, but since 1982 our garden and orchards have been untouched).

The more thick greenery there is planted around your garden (especially tall shady trees) the more it will be protected. In bad cases use a barrier of microjets or sprayer hose: grasshoppers dislike crossing water.

Trap them with dishes of molasses and water, or with yellow plastic floating in a dish of water, in a dam or in the swimming pool: they'll try to land on it and drown.

You can also try turkeys or some athletic free-range chooks.

Try a vacuum cleaner — don't laugh. It works, especially in the early morning when they aren't moving. Do not try when they're hopping unless you are an Olympic standard hopper too. Feed carcases to the chooks or put them in the compost — very good fertiliser.

P.S. The best of all is a mob of ibis in nice swampy wetlands. One mob of ibis can eat two tonnes of grasshoppers a week. But wetlands get dug out for dams, and sprays to kill grasshoppers may also kill the ibis or at least mean they hatch fewer eggs.

Plague of Harlequin Bugs

Hi Jackie,

I receive *Earth Garden* and saw your environmentally-friendly/organic suggestions to peoples' problems. I am growing my own vegies and have netted out the bower birds that were not helping my vegies grow at all. But now I have a battle with what I call harlequin bugs or push-me-pull-you bugs and as I am about to have my first fruiting of raspberries I would like an environmentally-friendly way to nuke the little blighters! Many thanks in anticipation.
Amanda.

Hi Amanda,

Try glue spray. Mix one cup white flour with one cup boiling water. Then mix in cold water, stirring till it's a thick glue-like spray. Strain out any lumps through a sieve. Place in a pump action sprayer — the misters you buy in the supermarket work okay for small plants, but you can buy pump action sprayers that will reach about twenty metres for high pests like pear and cherry slug. Now spray, on top as well as underneath the leaves if you can.

The bugs will suffocate under the glue — a nasty death, but at least anything that eats them (a few predators eat the young ones) won't be poisoned too. Either wait for the glue to peel off or wash off in the rain, or wait 24 hours then hose the mess away.

Guaranteed both messy and environmentally-friendly, but do soak the sprayer afterwards or it'll be glued up forever.

You can also try a bed of rue around the raspberries — rue does have a mild, very mild, repellent effect. But it will also shade your raspberries so you may not get as many. I find that a companion crop of autumn-planted turnips works well — the bugs are attracted to them as they go to seed in spring. Throw both turnips and bugs into a warm (that is, working) compost bin, or throw both to the chooks.

All the best, Jackie.

P.S. I have also heard of spraying them with full strength detergent, but haven't tried it as while it may well kill the

Passionfruit grow so quickly they are easily replaced every four or five years.

bugs, it may also burn your plant and kill micro-organisms in the soil, and perhaps stop it absorbing water as well. Detergent is not good in the garden.

Passionfruit life

Hi Jackie,

Great article on passionfruit. Do you know how long they grow for? I am planning a garden wall and thinking about making this 30-m-long by 3-m-high wall all covered in passionfruit. This will surely taste great though I am a little concerned that they might all die in about four or five years. Could you please advise. Regards and thanks again. Tony Blanch.

Hi Tony,

Passionfruit can live for decades — the one above my study is about fifteen years old, but they are susceptible to 'woody virus' when no longer young and growing vigorously — the passionfruit rind is thick and hard and the inside of the fruit is dry. It's best to prune passionfruit every year or two, and feed and water them well after the pruning to encourage new growth.

On the other hand passionfruit grow so quickly they are easily replaced every four or five years. Plant one at one end of the wall, then when it needs to be removed (and make sure all leaves and fruit are taken away too) plant another at the other end of the wall. Alternate indefinitely.

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If your soil is deficient, just bung on the good stuff, like lucerne hay.

Sycamore woe

Hello Jackie,

Although I'm not entirely new to vegetable growing I have never had a really successful season. I'm on the verge of giving up after this week's horrific heat, but I've invested so much hard physical labour over the past fourteen years I feel it will all be for nought.

First, I improved the soil problem (we have very poor hydroscopic soil in Ringwood, Vic.); next I built a walk-in enclosure to protect all growing things from the possums; next I installed a 10 000-litre water tank; next installation was an automatic dripper watering system ... and still the vegies were spasmodic and poor. Now I find that the neighbour's immense sycamore tree has invaded with its fine network of feeder roots. The tree is 10 to 15 metres away.

Is there a solution to this problem? (I like my neighbours but there is no way that they would remove the tree.)

I dearly love fresh, organic vegies and very much want to continue, but I think I am finally defeated. Can you advise?

Robin Baillie

Hi Robin,

Three solutions:

Option 1. Dig a trench around your garden, at least a metre deep, cutting through all the feeder roots. The tree should survive this — it'll just put out denser feeder roots closer to its trunk. Put down Colorbond or some other material tree roots can't get through. Fill in the trench. The roots in your garden should gradually rot and turn back to soil.

Option 2. Lay an impermeable barrier on the ground. Plastic rots, but woven fibre weed mat isn't too bad — should last at least a decade and lets moisture through but not roots. Now build above ground gardens on top.

Option 3. Our vegie areas survive on top of the

massive root base of avocado trees, apples, lemons and a few others. But we still get lots of vegies. The answer is to assume you are feeding and watering the tree as well as the veg. You'll need a bit more food, a LOT more water, and a LOT more mulch, compost and organic matter. A mature tree doesn't take an infinite amount of feeding and water, just enough to sustain it. So even though you're having to feed the tree as well as the vegies, it's not an impossible task.

In other words — either fence out the roots, or feed, water and mulch a lot more.
All the best, Jackie.

P.S. Try the 'silver beet soil guide'. If your silver beet is small and pale rather than big and dark green, then your garden needs more tucker.

Go for complete mulches and tucker, like lucerne hay, old hen manure or compost and don't worry about balancing phosphorous and other mineral deficiencies. If your soil is deficient in one or two things, it's probably borderline in many others. Just bung on the good stuff.

A better mousetrap

Dear Jackie,

Unfortunately I have at last had to pension off my old wooden mouse-traps and purchase the new-fangled plastic ones. Having set the new plastic ones in place I discovered that the mice were taking the bait without setting off the trap.

I was fortunate to watch one in the act and, lo and behold, the mouse ran to the side of the trap and gently lifted the bait without setting the trap off. Do you think a twelve bore would do the trick? Just joking. Have a great day.
Ken Hamilton-Brown, Busselton.

Dear Ken,

We have the same problem ... Bryan uses rat traps instead of mousetraps — they are sturdier but catch mice too. He hammers nails into them, so the points stick up around the trap. The mice or rats have to hunch over to get the bait, and the trap kills them hard and swiftly, instead of trapping a leg or tail so they yell in terror and agony.

We also wire the bait on.

But we also have live small animal traps now too — you can let the mice out as a form of industrial sabotage at any office where you'd like to make a small rodent protest.
All the very best, Jackie.

The Edible Garden

The Precocious Apricot

Originating in China and arriving in Australia via the Silk Road and the Mediterranean, the apricot is a summer favourite. *Earth Garden* co-founder Keith Smith explores the cultivation and varieties of this versatile fruit.

by Keith Smith
Artarmon, New South Wales

JUST before I sailed from Woolloomooloo on the *Ellenis* bound for Greece on 1 January 1965, a friend told me about an old Arabic saying. I tried it in Cairo when a guide persisted in wanting me to take a tour. "Bukra", I said. His eyes lit up — "Tomorrow?" I added: "Fil mish-mish". He gave me a very dark look.

Bukra fil mish-mish refers to the short, fleeting period in which fresh, ripe apricots (a favourite in Egypt) are on sale in the markets. It translates roughly as "When the apricots are in bloom", a euphemism for "never". I found later that "Mish-mish" or "Musch-musch" is the apricot variety that thrives in Egyptian oases and the name given to small dried apricots throughout the Middle East.

Ripe apricots are fragrant and juicy and have been described as 'melting'. They have the best favour when allowed to fully ripen on the tree.

Apricots make excellent juice, jam, chutney, pies and tarts (good mixed with apple) and can be preserved in syrup, dried whole, halved, or pulped and sun-dried to make fruit leather. Dried apricots can be substituted for prunes in cooked dishes, as often happens in France, for example with Lapin aux prunes and in Morocco when added to a lamb tagine with couscous. Then there are apricot brandies and liqueurs.

The apricot (*Prunus armeniaca*) is a deciduous stone fruit tree belonging to the rose family (*Rosaceae*). First cultivated in the mountains of north China about 4000 years ago, apricots were taken to Armenia along the Silk Road and spread from there to the Mediterranean and Europe, reaching Rome about 100AD.

The apricot was probably introduced into England, with other fruit stock, by Henry VIII's gardener Wolf in 1524. Our English name is derived from the Latin *praecox*, meaning 'early' — or precocious, if you like. The French *abricot* has the same derivation.

William Turner, the 'father of English botany', listed 'abricock' or *Malus armeniaca*, in his *Names of Herbes* (1548), remarking "We have very fewe of these trees as yet" and again in his *New Herball* (1551) after seeing several growing. Thomas Tusser included 'apricocks' in a list of fruit in *Five Hundred Points of Good Husbandry* (1573).

Apricots are the staple food of the Hunzakuts, who live in isolated self-sufficient village farms in the hills and valleys of the Himalayas and are famed for their health and long lives. They breakfast each day on grain porridge, mixed with fresh or dried apricots and sweetened with honey. To quote from Sally deVore and Thelma White in *The Appetites of Man* (New York, 1978):

> Young Hunza girls look with great favour on a man who has a couple of apricot trees. Their devotion to the tree and the fruit it bears is almost a religion. Much of the crop is dried for use in the winter. The apricots are cut in half and the seeds set aside. The fruit is then placed in huge, flat baskets with plenty of space around each piece, and left to dry on the roofs.
>
> The dried apricots are hung in clusters from the ceiling in a dry, airy room. The Hunzakuts soak them overnight and mash for porridge and mix them with snow to make apricot ice cream in winter.

There is no record of apricots being brought to Australia on the ships of the First Fleet in 1788. They arrived not too long afterward, because in 1795 New South Wales's first chaplain, Reverend Richard Johnson, was growing apricots, oranges, almonds, figs and even guavas at 'Canterbury Vale', near the present Sydney suburb of Canterbury. The first mention I can find in the *Sydney*

Australia's first fruit growers adopted the English method of training apricots in a fan shape against a sunny north-facing house wall.

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Gazette is on 1 January 1804, when a farm is advertised with an orchard including bearing plums, peaches and apricots. Australia's first fruit growers adopted the English method of training apricots in a fan shape against a sunny north-facing house wall.

Celebrating Christmas Day at Kissing Point (Ryde) in 1834, William Proctor, from the barque *John Craig*, enjoyed a beefsteak pie and rambled through an orange grove. He complained that the oranges were small and green, but added "we procured some very fine apricots".

The American horticulturist Luther Burbank ('A Genius in the Garden', EG128) hybridised the plum and apricot to create a new fruit he called the Plumcot, which is said to taste like a plum, but smells like an apricot.

Growing

Apricots do well in most parts of Australia, along the coast and in dry inland places, as long as they get enough water. They tolerate a wide range of well-drained soils and succeed in temperate and Mediterranean climates. Trees will bear in four to five years and might last for 40 years.

Apricots are related to peaches, which they resemble in form, colour and flavour, though the apricot's large pit or stone is more like that of a plum. They are cultivated in much the same way as peaches, although they can be more easily damaged by spring frost, cold weather and extremes of heat. But, like peaches, apricots need a certain amount of chilling during the dormant period. See 'Sweet as a Peach' in EG135.

Most apricots are self-fertile, but the old practice is to always plant two trees of any variety for a better crop. Several trees can be planted in a small space, sheltered from winds. A sunny north-east slope is ideal. In time, the trees will spread out to a 7.5 metre circle and grow to six to seven metres in height.

Trees are propagated by budding on to seedling plum or peach stock and are usually purchased as one- or three-year-old stock. Ask your nursery supplier for advice. Plant seedling trees in midwinter. When buds appear, apply a five-centimetre-thick mulch of well-rotted manure, away from the trunk and out to the drip line, to prevent roots from drying out.

Fruit is borne on one-year-old wood (like the peach), but also on spurs two years old or more. Until the fourth year, you should pick the immature fruit to encourage strong growth. Trees are best pruned every second year in early summer. Cut back sparingly, because excessive pruning might cause dieback.

Apricots are damaged by black heart, caused by wilt, a soil fungus harboured by potatoes, strawberries and tomatoes, so try to plant trees away from the vegetable garden.

Apricots are heavy croppers. Fruit tend to colour and ripen rapidly over a brief period in midsummer. Enjoy (and preserve) them while you can!

Varieties

'Early Moorpark' has smaller and more oval-shaped fruit than the superb 'Moorpark', with a rich, sweet flavour, but ripens earlier.

'Blenheim' ('Shipley's Blenheim'). A mid-season variety, with heavy crops of oval orange fruit with good flavour, which will ripen shortly before 'Early Moorpark'. Good for bottling and jam.

'Earlicot' is a very early bearer, producing light orange fruit with a red blush and good flavour.

'Hemskerk' developed from 'Moorpark', bears heavy crops of large conical orange-yellow fruit with a fine flavour.

'Moorpark'. Admiral George, Lord Anson, introduced the original 'Moor-Park' apricot, imported from the Continent, at his country retreat Moor Park, near Rickmansworth in Herefordshire. Large, plump, deep orange fruit are juicy and sweet and remain the favourite apricot variety after 320 years. Late-ripening.

'Oullins Early Peach', a Moorpark type, produces small fruit that are very sweet when ripe.

'Trevatt' is an Australian canning apricot that originated in the inland irrigation area around Mildura about 1940. Fruit are large, pale orange with firm, juicy flesh, good for stewing, preserving, bottling and making jam. One orchardist says 'Trevatt' is best picked slightly green or it will become mushy.

Sharing A Suburban Food Forest

In this second extract from *Back Yard Farmer Volume Four*, Amadis explains how she and her neighbours are creating shared gardens of fresh healthy food, and in the process have developed oases of friendship and respect in their urban environs. BYF4 is available from newsagents, bookshops or The Good Life Book Club from early July.

by Amadis Lacheta
Coburg North, Victoria

Emma and Annie amongst the silver beet, parsley, cucurbits and citrus.

MANY people with city-bound lives dream of owning their own block in the country and living self sufficiently. As an urban dweller in the North of Melbourne, I too long for more space to grow delicious vegetables, flowers and herbs and simply to enjoy the peace of a lifestyle more attuned to nature's rhythms. However, I also love the stimulation and diversity of the city, and given that more people live in cities than ever before, I'm more inclined to look at ways that we can transform our urban spaces for food production.

In North Coburg, we are blessed with a range of neighbours who love to grow their own food. Some of our older gardeners are Italian, Greek, Maltese, some Indonesian and some of Anglo-Saxon descent. We have young families with children who are growing up knowing where a cucumber comes from, caring for the hens that laid their fresh eggs and culturing their taste buds early to enjoy a wide variety of fresh, healthy organic foods. What's also exciting is that we get to share and swap excess produce, recipes, dishes and seeds of different varieties of vegetables and flowers, gardening tips and most important of all, friendship.

Our own garden is home to a number of conventional and less conventional food plants. Over the years that I have been learning more about food gardening I have come to appreciate that growing a greater quantity of what I like to eat, and managing seasonal succession of plants (in particular salad greens and herbs) that I harvest regularly, is a worthy aim in itself. Some of the more unusual plants we have include the white sapote (*Casimiroa edulis*), tamarillo (*Solanum betaceum*) and babaco (*Carica pentagona*).

Our nature strip is a jumble of culinary herbs, indigenous grasses, flowers and herbs and home to an almond and snow apple tree. We also grow yacon or Peruvian ground apple (*Smallanthus sonchifolius*), pepino (*Solanum muricatum*), horseradish (*Armoracia rusticana*) and a delicious land cress (*Barbarea verna*). My favourite harvest includes the summer's basil, rocket and tomatoes, home-grown garlic, and sweet asparagus, heralding winter's end and the beginning of spring. We have water tanks to keep our vegies and garden irrigated, and I am in the process of setting up our grey-water system to divert water from the bathroom. My greatest challenge is keeping the soil well fed and moist.

What makes me excited, is knowing that age-old skills that have been passed on from generation to generation are not being lost, and that the vital link with the Earth, and being able to provide for one of our most basic needs, is gaining new-found respect as more people discover the healing and delightful endeavour of growing food. Our community is the richer culturally and socially as a result, and we are well on the way to transforming our suburban gardens into the food, fruit, herb and flower oases of the future.

• *Amadis Lacheta is the director of Urban Permaculture. Ph: (03) 93505743. Email: amadis@urbanpermaculture.com.au Web: urbanpermaculture.com.au.*

Green Power News

'Green Power News' presents news, information, breakthroughs and new product information on renewable energy. Feel free to email any news items for consideration to: editorial@earthgarden.com.au.

ZEN Wins SA Tender To Supply Solar Panels

ZEN Home Energy Systems has won SA's first council-driven tender to install solar panels in the Fleurieu Peninsula and Barossa regions. Under the Community Purchase of Renewable Energy Program (C-PREP) program led by the Victor Harbor Council, ZEN will retrofit premises in the council regions of Victor Harbor, Alexandrina, Yankalilla and Kangaroo Island in the Fleurieu Peninsula region, creating 30 to 40 jobs.

The councils voted to award the tender to ZEN, and are encouraging local households and companies to register for the program, which will enable households eligible for the government rebate — and which sign up before 30 June 2009 — to buy an entry-level 1kW solar system for just $1,995, fully installed. ZEN hopes to install a "couple of thousand" homes in the regions. The Fleurieu and Barossa regions include more than 40,000 homes. Council representatives stepped in to cut the deal for the householders for a registration fee of $75 by offering the supplier a bulk deal in return for a discount on the systems by waiving off the Federal and State rebates. At this price, the entry level 1kW system is estimated to have a payback period of around four to five years.

The registration money will be transferred to establish an R&D fund with ZEN and a South Australian University, which would look at developing a solar/wind prototype energy plant. ZEN Home Energy Systems has worked with similar programs in regional Victoria, where it has helped set up a solar industry within smaller communities by creating jobs and training locals, ZEN chief executive Richard Turner said. At the release time of this announcement the C-PREP was yet to formally go public, but had already attracted over 400 subscribers, Victor Harbor economic development officer Roy Ramage said.

—Adelaide Advertiser

Power Of Good In Solar Energy Tariff Scheme

The ACT is positioned to become the solar capital of Australia. During a launch recently, Energy Minister Simon Corbell unveiled details of stage one of the ACT's Electricity Feed-in Tariff Scheme, which will allow households and commercial building owners to be paid for the solar energy they generate. According to Mr Corbell, the scheme is the most generous feed-in tariff in the country, paying households and small businesses for each unit of renewable energy they produce. Other States merely plan to pay participants for surplus energy produced. Under the scheme, eligible parties with renewable energy generation of up to a 30 kilowatt capacity will be eligible for the tariff. Systems up to 10kw will be paid 50.05c per kilowatt hour, while systems between 10kw and 30kw will receive a rate of 40.04c per kwh.

"Last year the ACT Labor Government introduced the Electricity Feed-in Act, today I am announcing a series of amendments to the Act to clarify its operation and allow it to commence for households and commercial buildings," Mr Corbell said.

"This will lead to a major uptake in the installation of renewable energy generation on households and commercial buildings. I am pleased to announce that renewable generators will be paid 50.05c per kilowatt hour exclusive of GST. This is 3.88 times the calculated normal cost of electricity."

Mr Corbell said electricity bills across the ACT would have a small amount added to them to cover the cost of the scheme. Households looking to take advantage of the project would be expected to enter a contract with their energy provider for a period of 20 years and it is estimated the cost to install solar systems could be recouped within 10 years. Mr Corbell expected stage two of the scheme to be announced in June and said it would allow for the introduction of the tariff for larger scale generation.

—Canberra Times

Energy Use Soars, Despite Era Of Green Awareness

We might be more environmentally astute, but Australian households are consuming almost 50 per cent more energy today than 20 years ago. An Australian Bureau of Statistics social trends snapshot, released in April, found residential energy consumption has grown by 49 per cent since 1987. Larger houses, a growing dependence on heating and air-conditioning and our obsession with modern appliances have all contributed to the spike in power use, the report says.

The snapshot showed that although Australians are becoming more aware of environmental issues, only 8 per cent of household electricity came from renewable sources in 2006-07. The production of renewable energy has increased by 49 per cent over the past 30 years, and from 2005-06 to 2006-07 the production of renewable energy increased by 10 per cent. However, the report suggests there is a discrepancy between those households concerned about the environment and those actually taking up renewable energy sources. Last year, 59 per cent of households had energy-saving lighting, significantly up from 33 per cent in 2005, and energy efficiency ratings on consumer goods were the main consideration when purchasing appliances. The number of households using solar power has also increased considerably in the past four years, from 4 per cent in 2005 to 7 per cent in 2008.

Nowadays more than 50 per cent of households are aware of the GreenPower option for electricity, compared with 19 per cent of households in 1999, the report says.

But while about a third of households indicated they are willing to pay extra for electricity generated from renewable sources, less than 10 per cent of households are paying more for GreenPower.

"The willingness to pay did not necessarily translate into action," the report says. Clean Energy Council chief executive Matthew Warren said the ABS snapshot predictably demonstrated modern households consume more energy because it was convenient.

"The reality is that the increased energy use is a function of people being financially rich, choice rich, but time poor. We're using energy to make our lives easier, but we have to think more about how we can be more effective in our energy use." It was encouraging that there was a greater awareness of the need for energy efficiency across Australian households. Mr Warren said: "Awareness is an important part of progress, but it's not going to be a solution in itself."

—The Australian

LED Lamps And TVs Just For Solar Homes

Off-grid specialist Phaesun GmbH of Germany, recently released new lighting and television kits from the manufacturer Sundaya at the world's largest specialist trade fair for solar technology. The new series – Sundaya Ulitium – encompasses LED lamps, LCD televisions and suitable solar modules as well as a distribution box for installation using plug and play.

The modular construction means the items are suited for cabins and garages as well as camper vans and solar home systems. Users can expand the number of lamps in practically unlimited quantities and can combine them with each other. Depending on the number of devices and luminous period desired, Phaesun offers four different module sizes with outputs between three and 12 watts.

The LED lamps consume extremely low amounts of energy and are very effective. For 240 lumens of light output over six hours, eight kilojoules of energy per hour are sufficient, which a solar module can supply with an output of only three watts. If one dims the lamps, which is possible in three steps, they need even less energy – at 120 lumens, they can be illuminated, for example, for 12 hours. The Sundaya lamp also leads the field as far as efficiency is concerned. While a conventional light bulb delivers one per cent and a low-energy light bulb five to ten per cent, the new LED lamp from Sundaya has an efficiency of 23 per cent.

The electronics and a lithium-ion rechargeable battery have been integrated in the lamps and television. By using a distribution box, one can connect the solar modules directly to the user's system. A charge regulator is not necessary. At a candle power of 240 lumens, the rechargeable battery will last three to four years, at 120 lumens six to eight years.

In addition to the Sundaya Ulitium series, Phaesun presented street lamps, batteries, wind generators and island inverters at the Intersolar Trade Fair from 27 to 29 May. Phaesun has branch offices in Eritrea and Panama and a worldwide sales and distribution network (www.phaesun.com).

Coal's Push For Carbon Storage An Impossible Dream

Kevin Rudd should meet Graham Brown before he decides to spend billions of dollars on carbon capture and storage (CCS). A coalminer for more than 20 years, Brown has his own theory on why money is being wasted on a technology few have faith in. Brown, from the Hunter Valley in NSW, originally worked in the construction industry, in open-cut and underground coalmines, including for Rio Tinto and BHP Billiton.

He is a staunch unionist but does not toe the line on CCS parroted by officials from the Construction, Forestry, Mining and Energy Union. Brown's main motivation is to see his former colleagues retrained so that they are able to exit a fading coal industry. He joined the NSW Greens after meeting state MP Lee Rhiannon, who said the party's policy was to make the transition to a clean energy economy with no job losses. Brown is not a politician. But he takes any opportunity to speak on the transition away from coal. He took part in a Greenpeace blockade of the Eraring power station in NSW last year, and attracted media attention as one of a handful of sympathetic miners. He is not funded by anyone.

The main problem is the sheer volume of carbon dioxide that needs to be captured and stored. Brown explains it this way: for every tonne of coal burnt there are 2.5 to 2.7 tonnes of carbon to store. A tonne of carbon is about 500 cubic metres, as a gas at sea level at room temperature. Now, say coal-fired power stations in Australia emit 100 million tonnes of carbon each year. The Government hopes CCS will trap 20 per cent of those emissions. If the gas is compressed 500 times, that's 20 million tonnes a year.

Transporting 20 million tonnes of highly compressed gas is no mean feat. "Look at the infrastructure that needs to be in place to get 80 million tonnes of coal to port," says Brown. "Moving gas is a different kettle of fish to moving coal ... because it's got to be stored in an intrinsically safe way — either pipe or trucks or trains". Then there is the problem of getting the stored carbon into the ground or beneath the sea floor. Brown says a mining industry is needed to put it in the ground — and that creates more carbon. There is also the risk of leakage. "You're talking about a lot of pressure, and there's heaps of cracks. It's only got to come out through a slow leak and it's all for nothing.

"The second you put it into the ground, the more it will expand. If you're going to put it a kilometre underground where the temperature might be 65°C, it's going to expand a monstrous amount."

Brown says CCS is a no-brainer. "Most people know that it's a furphy." He says coal companies know it too and until late last year, put little of their money into CCS. "They're just taking what they can from the Federal Government, and saying 'thank you very much'."

Their main interest is boosting extraction of coal-seam gas, Brown says. "They're having the taxpayer supply a lot of money for that research. They should be doing it themselves. What really annoys Brown is the attitude of CFMEU officials who have lined up with coal companies and are backing CCS rather than focusing on retraining workers to get green-collar jobs.

"We can be trained in anything," he says. "Who do you think maintains the equipment in the mining industry? And who do they think is going to do the work in the renewable energy industry, because statistics in Europe and a study by Greenpeace on the central coast of NSW show that there's six times more jobs in the transition away from coal than there is in it."

—SMH

Household Face Higher Power Bills

Households will pay more for electricity after a decision to exempt big business from paying for renewable energy. State and federal governments signed off on a plan on 30 April to have 20 per cent of electricity come from renewable sources by 2020. The Renewable Energy Target (RET) is a major climate change policy that has flown under the radar. Power bills will grow by up to $1.1 billion a year to pay for it.

Governments have decided that some industries will be largely exempted from paying. That means households and other businesses will have to pay an extra $300 million a year, energy experts say. Australian Conservation Foundation climate campaigner, Phil Freeman, was disappointed at the "free ride that's been given to big polluters".

"It means households and small businesses are once again going to foot the bill for cleaning up our energy," he said. But Prime Minister Kevin Rudd, who announced the changes, said some businesses deserved the RET exemption because of the global financial crisis, and because they would be affected by emissions trading. He said the RET would boost the renewable energy sector, which was full of potential. Climate Change Minister Penny Wong said the government would compensate households for the cost of emissions trading and of the RET. Governments, meeting at the Council of Australian Governments in Hobart, also agreed on improving the energy efficiency of buildings:

- From 2010 all new homes will be built to 6 stars on the energy efficiency scale.
- Hot water systems and lighting will have to be more efficient.
- Anyone wanting to lease or sell a home will have to disclose its energy, greenhouse and water efficiency from 2011.
- Energy efficiency rules for commercial buildings will be toughened from 2010, and there will be mandatory disclosure of a building's efficiency.

—The Age

Earth People Write
continued from page 7

Floppy fencing

Dear Editor,

We here at Pindari wish to thank you for your informative and entertaining magazine. The planet at this time certainly needs information resources such as you provide. Thank you. I respond to E. Greenstick's request for information on floppy fencing in the last edition.

On our web page at www.pindari-herbfarm.com is much information on many aspects of self-sufficiency, including the floppy fencing we are successfully using to keep animals out. This includes images of our fencing system. The address for this is: www.pindari-herbfarm.com/selfsuff/flopfenc.htm

Ken Atherton, Pindari Herb Farm, Tas.

Rebuilding after fire with EG

Hi,

Would you please thank AT Gray and all at EG profusely for the box load of EG issues I have received. I have been a fairly long-term subscriber to EG but lost all my back copies along with my hobby farm in the bushfire at Buxton on 7 February. This collection will encourage my rebuilding at some point in the future, to include a new library and bookshelf system. Greatly appreciated.

John Kennedy via Email.

Country girl in the city

Dear *Earth Garden*,

I just wanted to thank you for such a wonderful magazine. I stumbled across your publication many years ago while trawling through the secondhand bookstore Goulds at Newtown here in Sydney. Well, I was sold and have had many years of happy reading since.

Hubby and I are always battling it out to see who gets to read it first. I have put many suggestions to practice and now have a wonderful organic vegie garden, worm farm, compost bin and barrels collecting rain water from our roof all in the middle of suburban Sydney.

As they say, you can take the girl out of the country but you can't take the country out of the girl. Once again, many thanks.

Vesna Jacovou, Bexley, NSW.

Squab pigeons and guinea pigs

Dear *Earth Garden*,

Can any readers give me information on squab pigeon breeding and where I can get three or four pairs that are not related. I am also interested in farming guinea pigs and would like information on how to raise them.

RJ Parkins, c/- Mail Service 423 Chinchilla, Qld 4413.

Underfloor insulation source

Dear *Earth Garden*,

In Bob Rich's 'What's Your Problem' page, issue 145, you mentioned Air-Cell for underfloor insulation. We are looking for insulation ourselves at the moment. Can you please supply us with information on Air-Cell and where we can get it. Many thanks.

Alan and Lyn Rich, Heathcote, Vic.

Air-Cell Permifloor has a website www.air-cell.com.au and their phone number is 1300 247 235.

—Linda

Soapmaking info

Hello there,

I'm just replying to Dayle and Simon Morrison in EG147. Not sure how much you know about making soap — I'm just starting out myself. I'm not emailing a recipe because there are a few different ways to make soap, and quite a bit to explain if you've never made it before. If you have internet access check out www.soapnaturally.org/. Plenty of info and recipes. Also, they sell a great book called *Soap Naturally*. It has absolutely everything you want to know about making soap. Regards,

Amber Countryman via Email.

Seeking paradise in Tassie

Hi everyone,

I'm looking for some good productive soil for my piece of paradise somewhere in Tassie (when I buy it!) but I have no idea where to buy it. I would like between two to five acres with a local country market or a weekly auction in the area to buy and sell produce. It should have a green pasture outlook with maybe a water view, if possible and have no water restrictions. The reason for the move is that we are fed up with dying plants every summer. The last two years we've had about two weeks of over 40 degrees everyday. We want to be cool in summer. Thanks everyone. Email. meadow7@tpg.com.au

Garden Child via Email.

Coffee barometer and more

Dear *Earth Garden*,

Many thanks for publishing my last letter. I came across this Breakfast Table Barometer published in an old book from the 1800s that I thought might interest other readers.

A Breakfast Table Barometer: a cup of hot coffee is an unfailing barometer if you allow a lump of sugar to drop to the bottom of the cup and watch the air bubbles rise without disturbing the coffee. If the bubbles collect in the middle, the weather will be fine, if they adhere to the cup, forming a ring, it will either rain or snow, and if the bubbles separate without assuming any fixed position, changeable weather may be expected. Two more remedies: one way to quit smoking is by snacking on sunflower seeds, and a headache remedy is to pop two cloves in a hot cup of tea and sip. Yours sincerely,

Joy Allison, Traralgon, Vic

Using car tyres in walls

Dear Earth Gardeners,

In EG 147 Lindsey Frost asked whether she could use tyres to build a root cellar. Rammed earth/car tyre walls provide very good temperature control. The house we built in the central tablelands of NSW maintains very steady temperatures most of the time. However, rammed earth walls act as a heat mass rather than provide high insulation. That is, if you have a prolonged hot or cold period then the walls will adjust to the prevailing temperature. In summer they heat up during the day and then radiate the heat back into the night. If the nights are hot then walls will not cool down. In winter obviously the reverse happens, but if the days are very cold then the walls don't warm and so the room cools down. This building method was developed in deserts where the buildings were semi-underground and used the natural long-term coolness of the earth to maintain an even temperature. I think that the water tank, and building into the side of the hill, would solve some of these problems. Finally, tyre walls with car tyres are 700 mm thick. I am not sure how wide a truck tyre is. I can safely say from experience that there is a lot of dirt in a 700 mm wide wall and that building the wall is a very good way to get fit. You will need a lot of dirt. Seeing the tyres is not a problem, as you render the wall the same way you would a strawbale wall. I hope this helps.

David Alder via Email.

Low tech appliances, poured earth info wanted

Dear EG friends,

I live nestled between two national forests on the escarpment in southern NSW. Being electricity-free has some drawbacks. I am searching for a treadle sewing machine, carpet sweeper and a hot-coal iron. Does anyone have them to

sell or trade, and is anyone making nana technology locally? It will be a while before I can go solar, but these are things I prefer to use my own power for, anyway.

Also, I plan to build in poured earth rather than pisé, but can find little on it. Can people share experiences with me on: magcamfield@hotmail.com. Thanks for decades of idea and experience sharing.
Maggie via Email.

Don't give up the dream

Dear *Earth Garden*,

My family and I moved from comfortable, leafy suburbia to live in a dry 12-acre paddock in the riverland of South Australia in January 2008. We had dreams of self-sufficiency, lower mortgage and better quality of life. We moved into a caravan in time for the girls to start their new school whilst we sold our home. We enlisted a builder many months prior to this and never dreamed that it would be the caravan life for us for another eight months. The hot drying winds, unforgiving saline clay and winter frosts threw us many curve balls.

Foxes soon learnt to pick off the free range chickens one by one. With no utilities in the area we had the ever-expanding cost of installing a stand alone solar power system, battery backup, water tanks, grey water recycling system and so on, and our dreams of an affordable mortgage seemed to grow dimmer by the quote.

But please persevere — we have a new batch of chickens (not so free range, but more fox resilient!), ducks, goat, vegie patch and fruit trees. I feel that the tables are turning: we owe a little less on this mortgage than the last one, we still have water carted in whilst waiting for the rains to come, the soil where we plant is improving with every load of chicken manure it receives and our quality of life is definitely improved. The family pulls together on projects and we all have such a fantastic sense of achievement with every success — from another batch of fresh eggs to the next fence erected.

There will be trials and tribulations and unfortunately costs only ever seem to rise, but isn't it better to live part of the dream than to wish a different life years from now? Email: lisawalker10@bigpond.com
Lisa via Email.

Nanny work wanted in Qld

Dear Friends,

I am very sorry for all who lost everything in the bushfires in Victoria — my heart goes out to you all. I too lost everything in a bush fire on 9 April 2007.

I worked as a jillaroo for many years and taught many Wwoofers to hand-milk goats and ewes. I cared for all animals including horses and cows. I was the first organic-registered, licensed meat rabbit breeder in Australia. I also raised all breeds of sheep and poultry and looked after the ponies and donkeys. I did this work for 33 years and do miss it. I am interested in working as a nanny or companion/nanny in Queensland. I have looked after many children over the years and have my own ABN and public liability insurance. I am also interested in renting some land with a dwelling and fences and preferably with a shed and mains power.

I would also be pleased to hear from any of your readers for friendship.
Robyn Parkins, 472 Corio Lane, Culgoora via Narrabri, NSW 2390

Low cost tips

Dear Alan and Co,

Regarding 'Neutralising Acid Tank Water', I worked at Mt Isa in the early–mid-1950s and they used a lot of soda ash: at least two sacks, similar to cement bags, each day. Soda ash is made from salt as is bicarbonate of soda and that does not turn things saline. Could Megan make a bucketful and taste it?

I like two-litre plastic lemonade bottles. If you wind thick string around the part where it starts to curve in, cover the string with rubber solution and cut the top off level with the string you have a big plastic jar. Do not put anything hot in it. I put hot piccalilly in once and had a glorious mess as the jar collapsed. I waited until the piccalilly cooled a bit and filled three plastic jars. Did cool piccalilly keep? I did not get the chance to find out! One glass bottle that I do like is the flagon wine bottle. I find it ideal for bottling boats. If a grass stem is crushed the root sends up two to three stems, so, if a field of young wheat was crushed would the roots send up two to three stems each, carrying seed?
John E. Guest, Rockhampton, Qld

Earth care and repair

Dear *Earth Garden*,

After many years of inspiration and ideas from your informative magazine, we are living our *Earth Garden* Dream here in Nimbin. We've built the house, complete with stand-alone solar power, reed beds, water tanks, vegie garden, cow, chooks, kelpie, implementing bio-dynamics and undertaking heaps of Landcare in the large areas of forest.

It is a lot of work, but we think it is a better option for raising our three boys than life in suburbia. Out city friends marvel at our lifestyle and this subscription, for my old friend's birthday, is to encourage her, as I know she would love to leave the city behind one day in the future. Thanks for being there when I needed encouragement, especially when all other family and friends thought we were completely mad.

Yours in Earth care and repair,
Linda de Milford & Family, Nimbin, NSW.

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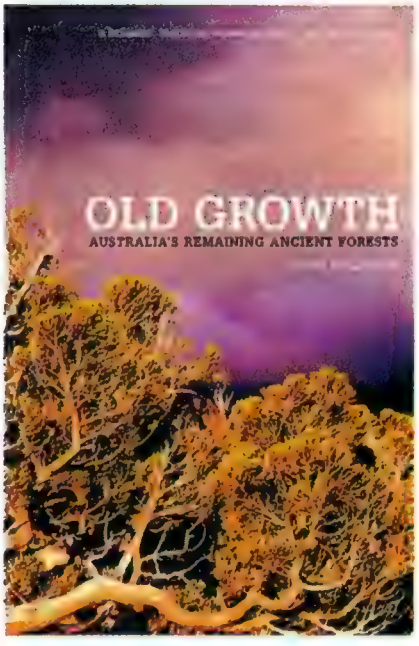
EARTH GARDEN REVIEWS

BOOKS AND MUSIC **Edited by Judith Gray**



Old Growth

by Peter McConchie
Foreword by Peter Cundall
Published by Hardie Grant Books
Hard cover, large format, full colour, 165 pages
$65.00 inc GST*

Well, what an incredible collections of photographs! This is a fabulous coffee table book that reminds the reader of just how incredibly diverse Australia's ecology is, and how it should stay!

Photographer Peter McConchie has gathered together a collection of photographs from many different contributors to create this wonderful book.

Australia's old growth forests are one of our greatest natural assets. Myriad ecological functions include the absorption of carbon, which is crucial to life on earth. Old growth forests contain rich communities of plants and animals. These species' survival depends on the unique environmental conditions created by the forests.

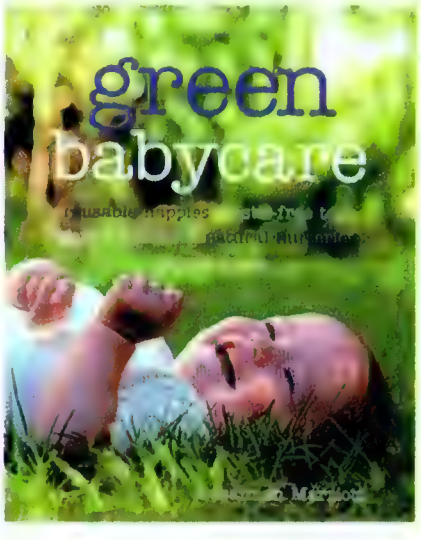
This book makes a great education tool as well as a reference guide for contacting relevant environmental groups and photographers. It's time all land clearing stopped!

Green Baby Care

By Susannah Marriott
Published by DK Books
Hard cover, small format, full colour, 190 pages
$39.95 inc GST

This is a practical guide to help you choose a path to greener parenting. Climate change is a big problem but the solutions have to start at home. Author Susannah says we hold the purse strings because we buy the products — so start with baby.

Refuse, reduce, reuse, repair, and recycle. The arrival of a new baby in anyone's life is a time of change. Take the opportunity to make some simple changes — the laundry soap you use, buy local food — the list (and help) goes on.



This book looks at feeding, cleaning, a safe nursery, natural ways to learn and play as well as introducing your baby to a greener world.

Many of the tips in this book are simple but really achievable for new parents. Use the green resources pages to find your needs and network with others. This is a great, concise and inspiring little book. Go Greenies!

Birds in Your Garden

By Ellen McCulloch
Published by Hyland house
Full colour, soft cover, 128 pages
$24.95 inc GST*

Although a revised edition, I thought I should let you know about this book. If organic gardening is of any interest to you, then birds must be too. This book is just fabulous for anyone who enjoys birds in their garden. Yes, it's for domestic bid watchers.

Learn how to create habitat, provide water, what plants attract birds. Learn how to build nest boxes and what to do when a bird flies into a window.

This book is beautifully photographed and shows many different birds; finches, honey eaters, robins, doves, parrots and many more. My favourite is the rainbow bee-eater — welcome visitor in any tropical garden.

Author Ellen is very knowledge-

able and has tips for both southern and tropical gardeners. A great read.

Seed Savers — Our Seeds: Seed Blong Yumi

DVD

By Michel & Jude Fanton, 57 minutes, English

Price: $24 within Australia and $31 outside Australia, (includes airmail postage).

Available from: www.seedsavers.net

This is an uplifting look at a very complex, very serious issue. How do we keep biodiversity on farms and in food gardens? This is a film made for the people of the Pacific, but it has a very strong message for the people from all nations. It is shot on location all around the world from China, Vietnam, New Guinea, the Solomons, Italy, France and Spain. The story is the same — saving seeds saves culture.

Our ancestors understood the need to collect seeds. Centuries of saving and sharing seed has brought about an abundance of varieties of food plants for us to enjoy today. Sadly, this is all changing; unique varieties of food plants are vanishing quickly — and with it, traditional

knowledge.

This film looks at how commercial seeds dependent on chemicals are destroying our food chains and undermining cultural fabric. Even small remote villages in Papua New Guinea and the Solomon Islands have fallen prey to the large multi-national companies.

Communities are becoming dependant on purchasing new seed annually, not to mention all the chemicals that go with it. As food gardens become monocultures, people's diet changes. Food quality is reduced and cultural shifts are occurring.

This film is an excellent educational tool, looking at many of the broader issues such as exports, imports and pollution.

But all is not doom and gloom. Seed Savers networks are vast. Filmmakers Jude and Michel interview food gardeners from all around the world. This truly is a case of giving the knowledge back to the people. Plant a tree for the next generation and share your gardening knowledge today. Every school and library needs a copy of this film!

***Books marked with an asterisk are available from the Good Life Book Club Ph: (03) 5424 1814.**

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$$ From Home $$

It's easy when you know how! And the best way to find out how is by getting a copy of **Australian Business & Money Making Opportunities** magazine. Every issue is packed with information on affordable and exciting money making opportunities (full or part time). It's sold from Newsagents across Australia and is found in the business section. EG readers can get a recent issue by sending 4 x 45¢ stamps with your name and address to the address below. We also produce the following publications.

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Great Nana Technology

FRUGAL LIVING TIPS

by Vivien Dockerty
Herberton, Queensland

My mother's mother was very thrifty, or at least she appeared to be on the surface but there was an extravagant woman underneath trying to get out! She would save two inches of string if she could, and she made loose covers for her loose covers. I remember my grandfather buying her a new washing machine and a new television as appeasements, however she refused to use them for years and the old TV stood on top of the new one and the washing machine, well, that stood beside the old one!

In the days of spin driers that were individual items, not attached then to a washing machine (I'm going back a bit!), she decided one day to oil the wheels of hers. There's probably not much need to elaborate on what happened when she tried to use it the first time after that. Picture this dumpy lady hanging on to the spin drier as it tore across the kitchen and you'll have a bit of an idea.

Perhaps her most bizarre frugal living tip was saving her budgie's poo. She observed the time of day he usually "went" and put a fish paste jar underneath him as he sat on the perch. This she mixed with water and put on her pot plants.

She used to make out that she didn't need the light on or watch TV, but that wasn't true. They were all on until you knocked on her door and suddenly the place was pitched into silence and darkness. Often I was sent to the shops to buy yesterday's bread at half price.

When she and my grandfather were in business they didn't speak for 19 years; I won't go into the reasons, but during that time she did the bookkeeping. She "saved" the price of a new Hillman Minx without him knowing. My grandfather thought she'd saved it out of the housekeeping. In reality it was embezzlement but he was delighted when they finally sold the business, spoke again and she presented him with his new car.

When she died we found a collection of new shoes to rival Imelda Marcos's, so her frugal living suddenly didn't have much credibility. We also found out that she had a passion for flying but hadn't flown for over 60 years. Apart from special occasions, I never saw her wearing anything that wasn't topped with a button-up-the-front maternity smock, it was like a uniform, a rite of passage of the hardworking housewife. Without it maybe she felt she would be seen in her true colours — as that adventurous, glamorous woman who didn't know how to be herself.

But, you know, as I've become older too, the DNA is showing its true colours and I've turned into a recycler to rival the most avid!

Great Nana Technology

Now's the time to send in descriptions of the things gran and grandpa did to be frugal and thrifty — to reuse and recycle. As petrol prices and interest rates climb higher, it's the perfect time to share that frugal living tip with other Earth Gardeners. Please post your tip to 'Frugal Living Tip', *Earth Garden*, PO Box 2, Trentham, Vic. 3458, or email it to editorial@earthgarden.com.au.

Earth Garden Cottage
~ Holiday Rental ~

Fancy a restful weekend in the hills of central Victoria?

The Earth Garden Cottage is now available for weekend (or longer) holidays. Located on a quiet street next to the *Earth Garden* office at Trentham, less than one hour from central Melbourne.

The Earth Garden Cottage is on one acre surrounded by olive and apple trees, in a small street that leads directly onto the Powerful Owl Walking Track.

It is ten minutes walk from Trentham's shops and the famous Red Beard organic bread bakery/café (country Victoria's "best new food store" says *The Age*).

A Ned Kelly wood heater, extensive library of books, and a lage sunny deck all add up to a pleasant weekend in this Edwardian cottage, only 15 minutes drive from Daylesford and Hepburn Springs.

Visit the Earth Garden website for costs and availability at: www.earthgarden.com.au/cottage/cottage.html, or phone (03) 5424 1819.

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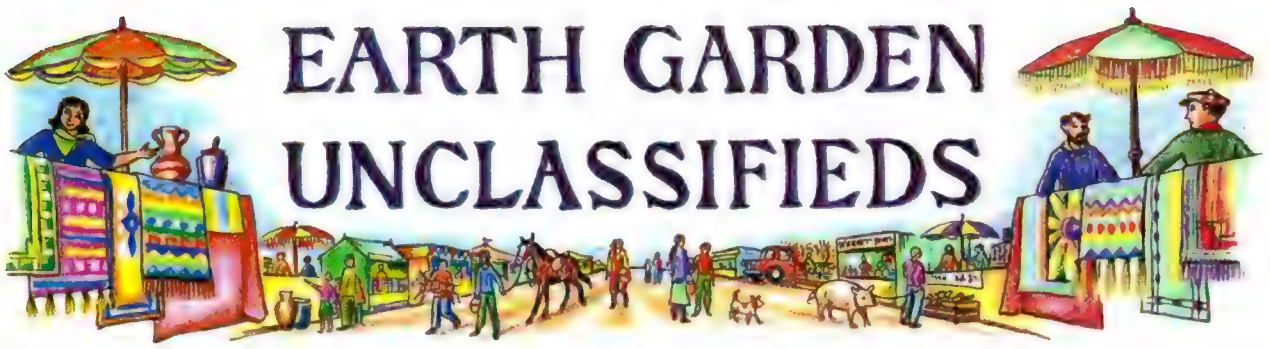

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BOOKS, COURSES, EDUCATION. Organic Gardening and Farming web site Jade and Paul Woodhouse's Lifestyle Farm. Web: www.simplynaturalorganic.com Ph: (02) 6657 3368.

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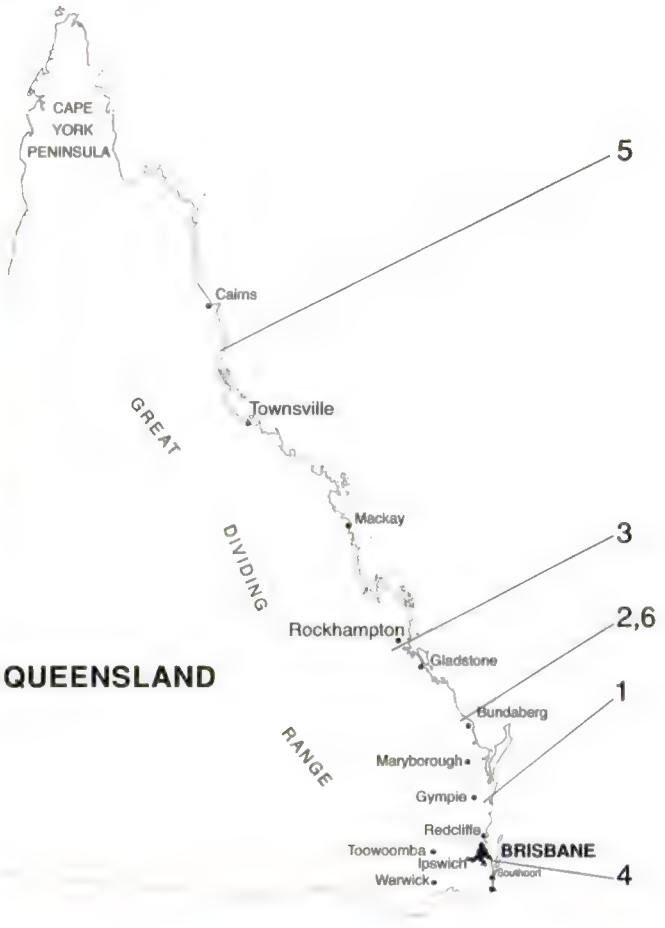

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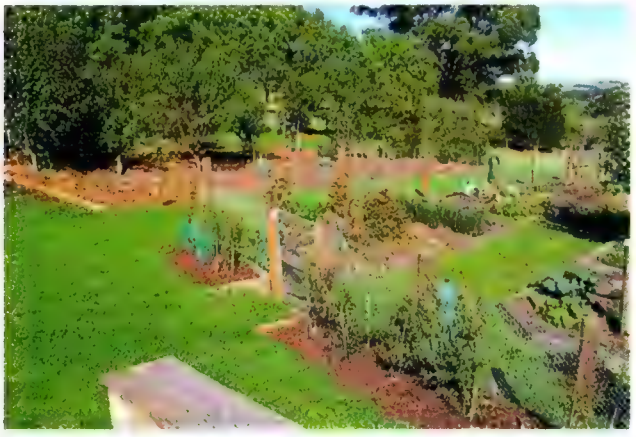

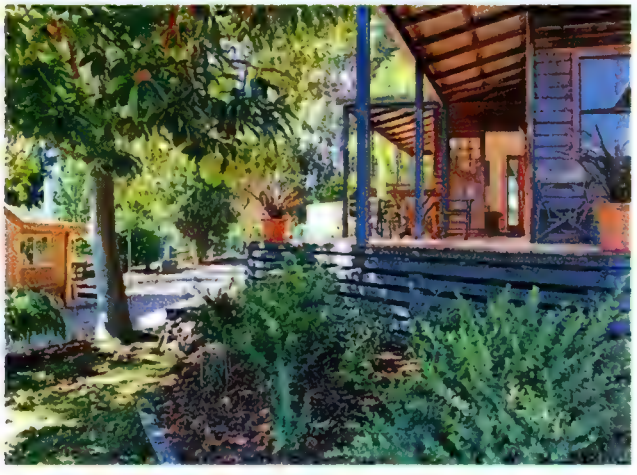

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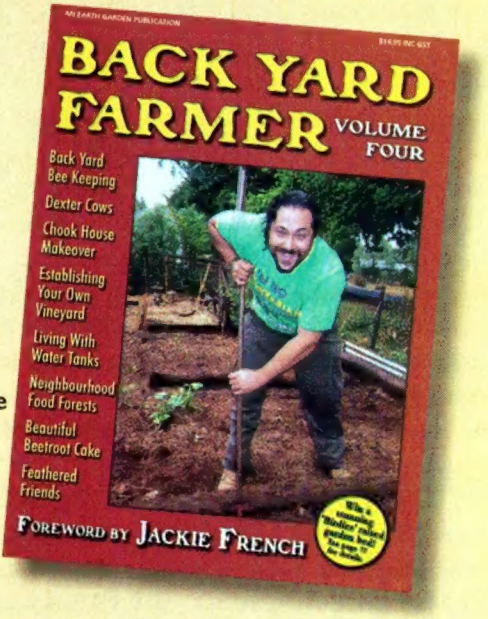

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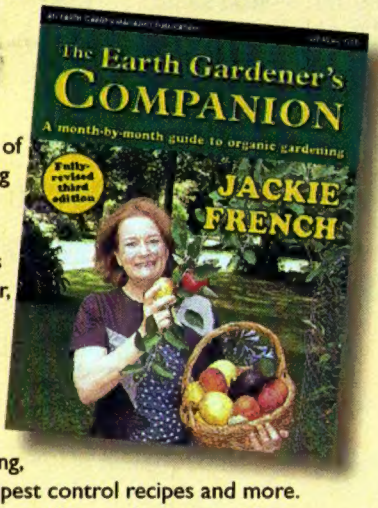

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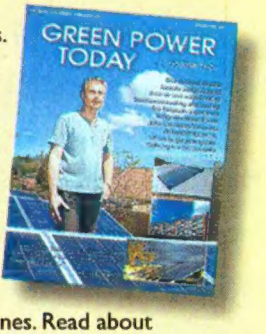

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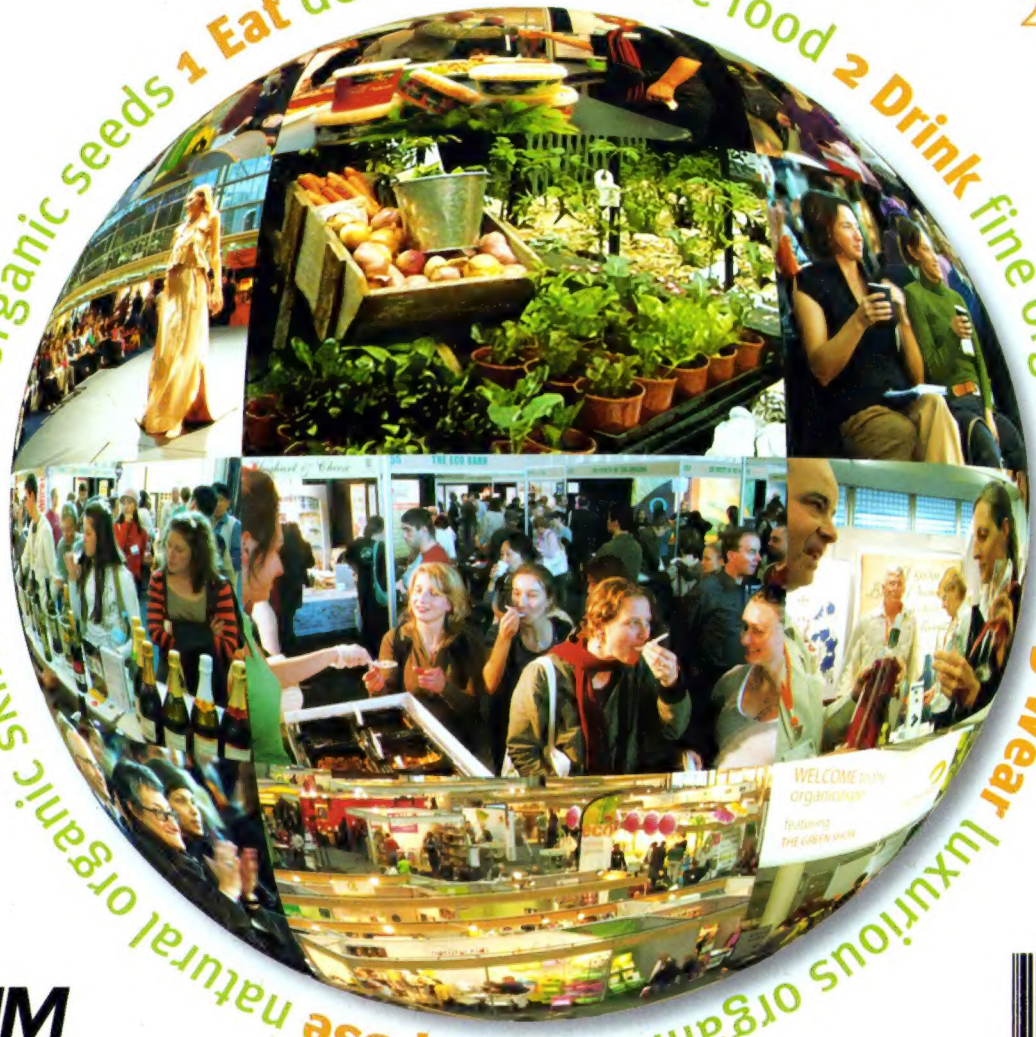

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